

# AMERICAN VETERINARY REVIEW.

AUGUST, 1895.

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NOTICE.—Please address all communications regarding matter for publication, books for review, exchanges, etc., to the Editor, 139 and 141 W. 54th St., New York.

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## EDITORIAL.

VETERINARY EDUCATIONAL PROGRESS (?) IN NEW YORK STATE.—During the past hundred years the science of veterinary medicine and surgery has struggled against the odds of superstition, charlatanism and prejudice with a heroism that was entirely worthy of so just and noble a cause. Especially has this been the case in the English-speaking countries, where governmental assistance has been almost entirely withheld, and the self-denial and devotion to principle have been more marked than in any other land where it is now known. In America the birth of true veterinary medicine has been an event of such recent occurrence that most men of mature years can recall it with all the details of its gigantic progress from infancy to the state in which it exists to-day. Those who have taken part in the great battle for recognition as one of the advanced sciences have marveled at the wonderful growth of its ranks numerically; they have been amazed at the rapidity with which new educational institutions have sprung up for the special training of young men for the important duties that are constantly opening up to them, as well as the establishment of special chairs in the great universities and colleges for special or supplementary instruction in the new science that has been awakened in this country.

They have been impressed as well by the public appreciation of the merits of the scientific veterinarian, who has forged forward until by the very force of his qualifications and his manifest benefit to humanity through the domestic animals he now occupies positions of trust and confidence in national, state, county and municipal governments. And the profession as a whole has steadily endeavored to make itself more worthy of this appreciation of its merits; and scarcely a year has passed when some act is not recorded to make the educational standard higher, and the requirements for obtaining it more stringent—to the end that better men have sought to become members of it, and their education has been broadened and made more thorough. Every school has gradually and voluntarily added to its curriculum, and most of them have lengthened the course of attendance by one-third. To tighten the lines upon those schools which still adhere to a short course the National Association has refused her fellowship to their graduates.

The Empire State has always lighted the way to every important advancement, and the profession of the country looks to her for any new departure for the good of all. And she, ever restless for some new step that will carry the profession forward, has recently taken a most important action of a legislative nature, whereby the legalizing of new graduates from the various colleges is to be taken out of the hands of their faculties and placed in the custody of the Board of Regents of the State of New York, who will appoint an Examining Board of Veterinarians selected from prominent practitioners, who will perform their services in a perfectly disinterested and unbiased manner. It was thought by this means that all suspicion of favoritism or commiseration for unfortunate circumstances would be avoided; that the different colleges, spurred by competition, would strive harder to give her pupils a more thorough training, and that in this way it would redound to the good of the whole profession of veterinary medicine.

This law has been passed and signed by the Governor. Whether the spirit of the statute, as understood or meant by

its promulgators is to be carried out, remains to be seen. Certainly, the very first step taken to carry out its provisions does not augur well for the future of the profession in this State. The Board of Regents was empowered to secure an unbiased examining board of veterinarians, and they very properly applied to the official representative of the profession in the Empire State, and so the New York State Veterinary Medical Association was asked to nominate ten members of the profession, from whom five would be selected to compose this most important and disinterested body of examiners. In another column of *THE REVIEW* we present an official report of a special meeting of this society, called for June 11th, for the purpose of carrying out the provisions of the act of the legislature. One of the plainest propositions to those who had contemplated the new law was that certainly no member of the faculty of any school whose pupils are to compete for the diploma of this Board had any moral right to a place upon it. A teacher in one college has no business to examine the students of a rival institution in competition with his own. Even if he were absolutely fair and honest, and unbiased by personal acquaintance with the candidates coming from his own school, their competitors are placed at a great disadvantage, in that his method of teaching is foreign to them and familiar to his own. It is then manifestly not an unbiased board. It is retrogressive, and the profession would by this means take a stride backwards that would more than undo the greatest achievements of years of struggling.

But, incomprehensible as it may seem, this is just what has been done by that special meeting of the New York State Veterinary Medical Association. It renders the whole law not only farcical, but it destroys harmony, generates discord, and invites unfairness and dishonesty. Worse than all, the State Society, in placing in nomination representatives of different schools, have done so deliberately, and after discussion of the subject. It matters not that there was present at this meeting but a handful of members; and it matters not that it was resolved to exclude teachers from this list, and then, after recess, rescinded that resolution before certain opponents of it

had returned to the hall—the mischief was done legally, and it should be at once undone. If the members responsible for this great wrong to the veterinary profession of America cannot see that they have blundered, and will not recall their action, then the rank and file of the profession should at once acquaint the Board of Regents of those names which represent schools, and certainly the Regents will recognize the fact that they have no business to be examiners. It matters not that every school is represented in the list; that none are slighted. It is wrong, all wrong; and should be undone, before incalculable injury is inflicted on the whole body of young men now preparing to enter an honorable and noble profession.

TO OUR SUBSCRIBERS.—In the July number of the REVIEW we alluded to the difficulties this periodical had experienced in having passed through the hands of a firm which had become financially entangled; and how we had again secured control of it absolutely. In starting it off again upon a new basis every subscriber was asked to also begin afresh, and renew his subscription just as though the paper had never existed. In that issue we made a simple but positive proposition, which was, in substance, that we asked the suffrage of the American veterinary public: if they wished THE REVIEW continued as heretofore they were to send in their subscriptions at once; if they did not, we would cease its publication. By this means it was thought that an issue would be forced and an answer received that would be decisive and immediate. The result has been obtained. The profession has spoken most emphatically, and in no uncertain tones. The large subscription list which we received from the defunct publishing house—the list was all we got, not a cent in money—was thus appealed to, and it has responded by sending in more *bona fide* subscriptions than we had expected in our most hopeful mood. With the actual subscriptions we have received many personal letters asking that the REVIEW, ever the true organ of the American veterinary profession, be by all means continued as in the past, and many pledging it their hearty co-operation. It is pardonable, then, in us, if we



indulge in this article a little further upon business matters. We have said the response to our notice has been generous—beyond our expectations—which is true. Of course, in a large list of subscribers, some have not responded. We take this last opportunity to say to all such that the August number will be mailed to their address, after which, unless we receive a notification that they wish it continued, accompanied by three dollars to pay for one year's subscription from April, 1895, the REVIEW will cease to be sent to them. As we stated in that July number, this journal is not published to make money: but we cannot afford to lose it continually. We have received sufficient subscriptions to place it upon a self-sustaining basis; but we do not intend that those who have so cheerfully signified their approbation shall do so for the benefit of others who have shown themselves neglectful or indifferent.

After this, we trust it will be unnecessary to burden our readers with business matters. But we emphasize the purport of this notice: *To all who have not paid their subscriptions beginning April, 1895, the REVIEW will cease to be sent after the August number.*

UNITED STATES VETERINARY MEDICAL ASSOCIATION.—By the time another issue of the REVIEW shall have reached its readers, veterinarians from almost every state in the Union will be upon their pilgrimage to the great Northwest, whither they will be journeying to attend the thirty-second annual meeting of the United States Veterinary Medical Association, which meets at Des Moines, Iowa, in September.

From all indications the approaching meeting will be the largest numerically, most national in character, and most important from an educational standpoint that has occurred since the organization of the association in 1863. The centrality of the place of assemblage will insure the attendance of a very large number of members who otherwise could not or would not visit the annual conclave, chiefly for the reason that heretofore the distance has been so great, and the length of time required in going to and fro so exacting as to render it impracticable for them to so long absent themselves from

their practices. All practitioners who take any degree of interest in their profession necessarily would very much like to enjoy the intellectual and social pleasures which the meetings of this association always afford; and they will avail themselves of it if they can do so without too much sacrifice. Democratic principles include the time-honored aphorism, "the greatest good to the greatest number;" and, therefore, it appears to be the wisest plan always to select that point which will be most accessible to the largest number of members—some centrally-located Western city, rather than the extreme East or the extreme West. While no doubt the journey from New York, Philadelphia and Boston across the continent to San Francisco is one round of picturesque pleasure; the reception and entertainment by the association members at the Golden Gate the acme of good fellowship and hospitality—still, but few of the members residing in the former cities could spare the time and money necessary to make such a trip; and, *vice versa*, veterinarians of the Pacific Slope cannot and do not come to the extreme Eastern meetings, so that the wisdom in selecting Des Moines for this year's convention is manifest, and the experience of the coming session may do much toward deciding the next topographically-accessible place of meeting. The reputation of the Des Moines veterinarians for hospitality is a sufficient guarantee of the heartiness of the welcome which awaits the hosts who are to assemble there.

Adaptability of location is, then, a most important factor, standing next only to the work that is accomplished at these meetings. From the imperfect programme now at our command, there appears to be no lack of material for the intellectual delectation of those who are so fortunate to be able to be present; and it is to be furnished by some of the brightest minds in the association. Papers are promised by such men as Schwarzkopf, Williams, McLean, Butler, Trumbower, Harger, Huidekoper, Reynolds and Niles, and as the list always increases as the time for the meeting approaches, we may be sure of even a more extended programme.

To this array of names may be added important discussion,

as many of the subjects will embrace questions of sanitary economy, which are of the greatest moment to the profession in America of to-day. Educational problems will undoubtedly engage their deliberate consideration; and as so much good is flowing from their agitation of this question for the past few years, every member is alive to its necessity and exhilarating influences.

Every American veterinarian who can should attend; those who are not members should without delay connect themselves with it. Those from the East are insured an especially pleasant trip, as it is proposed to have a special car at the disposal of the Eastern party, which will leave Philadelphia about Sept. 7th, and special transportation rates have been arranged with the Baltimore & Ohio Railroad, which insures the best of service.

MASSACHUSETTS LAWS.—Through the courtesy of Prof. Osgood, of Harvard University, who is chairman of the Cattle Commission of Massachusetts, we have received the laws for 1895, relating to the control of contagious animal diseases in that State. The completeness of the regulations certainly bids fair for the systematic examination and control of those diseases in every part of the commonwealth.

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## ORIGINAL ARTICLES.

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### VETERINARY OPHTHALMOLOGY.

Specially Written for the American Veterinary Review by J. A. COUTURE, P. S.,  
Quebec.

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#### FIRST CASE.

THE SO-CALLED PERIODIC OPHTHALMIA OF THE HORSE—REPEATED ATTACKS OF IRITIS, CAUSING INTERNAL OPHTHALMIA, COMPLICATED BY CATARACTS, ATROPHY OF THE RETINA, DEPOSITS IN THE VITREOUS BODY.

*History.*—The patient is a three-quarter bred mare, owned by Capt. Turner, of Queen's Own Hussars, at Quebec. She

is 7 years old, 16 hands, and is used mostly as a saddle horse. She was bought in January, 1893, and was passed as sound by a veterinary surgeon. In the course of the summer of 1893 she suffered from what the veterinary surgeon called scarlatina and la grippe. In August of the same year she had her first attack of periodic ophthalmia; it affected the left eye. She was apparently well after a couple of weeks. From that time she had attacks of the same affection every four or six weeks, the disease changing from one eye to the other. In the spring of 1894 she was shown to a human oculist who, after a superficial inspection, declared that there was nothing serious, and prescribed a weak solution of carbolic acid to the eyes. The patient was brought to me for the first time on December 15, 1894. She was suffering from one of her attacks.

*Clinical Examination.*—She is in good condition, pulse and temperature normal. The right eye is much inflamed, weeping, photophobia, very painful to pressure. There is a greyish white deposit opposite the pupil so that the latter is hardly visible. With close inspection it is seen contracted, elliptic in form. When a lighted candle is passed before the eye, only one light is reflected, showing that the deposit exists in the anterior chamber. It is found impossible to examine that eye with the ophthalmoscope, as the eyelids are closed the moment the rays of light are directed into the organ.

*Diagnosis.*—Iritis of specific form.

*Prognosis.*—Doubtful. I will examine the patient with ophthalmoscope as soon as possible, and will then give a definite opinion.

*Treatment.*—Obscurity, warm fomentations to the eye, solution of cocaine (5 per cent.), three drops placed in the eye every 6 hours; solution of atropin (1-250), three drops in the eye every 6 hours. Frequent applications of following collyrium: Corrosive sublimate, alcohol, (100), distilled water, (900).

A fortnight after all inflammation has disappeared, so has the deposit in anterior chamber. The patient is then thoroughly examined so as to enable me to make a correct and definite diagnosis and prognosis.

*Right Eye.*—Superficial examination shows already that the pupil is contracted considerably—elliptic; the eye is sensible to the light and eyelids are partly closed when exposed to bright natural light. When a lighted candle is passed before the eye two lights are reflected, indicating that the cornea and anterior surface of crystalline lens are transparent. Examined obliquely with or without No. 2 lens the iris is seen adherent (synechiæ) to the crystalline lens, dark-colored deposits are seen at two or three places, they are fixed, immovable; they belong to the crystalline lens. Other deposits of same color are seen fixed, immovable at one end and the other end moving to and fro, as the limb of a tree shaken by the wind. These belong to the vitreous body. Examined with the ophthalmoscope, the above alterations are much more visible, but these deposits prevent the rays of light to penetrate sufficiently the transparent parts of the eye to see the bottom of the organ. We only see the dark red shadow, but the details escape investigation.

*Diagnosis and Prognosis.*—Formation of a cataract, disease of vitreous body, and probably choroiditis with gradual atrophy of retina; actual partial blindness, with great tendency of aggravation and complete blindness as final result.

*Left Eye.*—Superficial inspection shows pupil dilated to its extreme limit, immovable, the light of an ordinary No. 10 electric lamp directed suddenly into the eye causes no effect on pupil. A lighted candle passed before the eye shows two reflected lights so that the cornea and anterior surface of crystalline lens are transparent. Examined obliquely, with or without No. 2 lens, the same alterations of the crystalline lens and the vitreous body are observed as in the other eye, but larger and more numerous. The ophthalmoscopic examination has no better result than with other eye, only a shade of the choroid being perceived. The cornea seems insensible, and to test it, a piece of paper is carefully applied, avoiding the lashes, and made to touch the cornea; no sign of sensibility is evinced. In order to further test it, 6 drops of solution of eserine (1-25) are placed in the eye three times a day during five days. If the eye is not paralyzed, the pupil



should contract; but in this case the eserine had no effect whatever.

*Diagnosis and Prognosis*—Paralysis of the eye, the result of atrophy of retina as a consequence of choroiditis (internal ophthalmia), the first cause being these various attacks of specific iritis. Formation of a cataract and of deposits in vitreous body. Incurable.

The patient has had no other attack of iritis since Dec. 14, 1894, and she is used every day as saddle horse.

This case is interesting because it shows the terrible alteration brought on by the disease, and specially because it confirms the opinion of Dr. Rolland and Dr. de Metz that the so-called periodic ophthalmia is nothing else than the inflammation of the iris (iritis). I have in my notebook a few other cases that tend to confirm this opinion, and which will be published in due course of time in *THE REVIEW*.

## PNEUMONIA.

By R. B. PLAGEMAN, D.V.S., Brooklyn, N. Y.

Pneumonia is a general disease, no local product; the inflammation of the lungs is only the leading symptom. The phenomena of the disease cannot be explained by the local affection. This assumption of a specific germ or germs is necessary. Pneumonia bacillus (Friedlander); pneumonia coccus (Frankel). Pneumonia belongs then to the group of infectious diseases.

According to Weichselbaum, the bacteria found in the different pulmonary inflammations are to be regarded as the cause. The conclusion is completely justified on the following grounds: Definite, well-characterized species of bacteria not only occur constantly in acute pulmonary inflammation, but can be demonstrated in greatest abundance and activity in the earlier stages of this inflammation. They have been isolated and cultivated, and when introduced into the system have produced processes which, taking them *in toto*, correspond to inflammation of the lungs.

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The pneumonia virus is no unity, inasmuch as pulmonary inflammation can be produced by different kinds of bacteria.

From experiments of Friedlander and Frankel it is obvious that pneumonia is associated with more than one pathogenetic germ. The separation of pneumonias into croupous, lobar, and lobular, has an anatomical but no etiological significance.

During the course of pneumonia micrococci may be found not only in the lungs, but also in the blood, kidneys, liver, brain, and in fact nearly all the tissues of the body.

There can be but one etiological explanation of the disease: Pneumonia is the harvest of the seed sown. It is not improbable that the various predisposing causes, such as cold, exhaustion, and debility lower the vitality and render the animal susceptible, thus changing the character of the tissue soil, so that the virus can grow and produce its specific effects.

This brings us to the time-honored prejudice in favor of cold. Horses shiver when they are cold, and often shiver harder with pneumonia, hence the conclusion that cold is the cause of pneumonia; but cold can no more generate pneumonia than it can glanders or farcy, if it is due to microbic infection. A horse with pneumonia may really be more ill with a low temperature than when he has the maximum pyrexia usually manifested in this disease. The question of the two great classes of antipyretics, those which act directly on the thermogenic centres, those which merely reduce the surface temperature and prevent the accumulation of heat within the organism suggest themselves. Now, I contend that by the exhibition of drugs of the antipyretic class in doses large enough to keep down the temperature any great length of time, we diminish the power of the thermogenetic centres, which is really the stimulus given by the enemy.

By the external mode of thermolysis, sponging along the spine, over the head, in the flanks, the extremities, etc., the best results are obtained. This mode of antipyresis is, in my opinion, under favorable circumstances—that is, when the

stable is fairly comfortable and free from draughts—the most rational.

*Treatment.*—In the hyperæmic stage acetanilid possesses practical value when the fever is threateningly high; after exudation has taken place, the three sheet-anchors are digitalis, nux vomica and belladonna. If only one is used I think nux has the preference. Digitalis alone almost always fails to stimulate the vaso-motor system sufficiently, and the belladonna has to be added to regulate the blood-flow by its vascular action. The nux finds its greatest value as a tonic to the entire system when the poison of the disease is attacking the nerve-centres.

When the fall of temperature begins to mark the stage of consolidation (the critical stage) then is strychnine and belladonna particularly useful. Under favorable and peculiar circumstances hydro-therapeutics may be advantageously used in the hyperæmic stage, when the temperature is critically high. When I use the term hydro-therapeutics in hippopathology I do not mean deluging the patient with cold water, but I mean frequently sponging with alcohol and water in the manner as before stated. The cold water sponging lowers the temperature. It acts in two ways: it alleviates nervous irritability, calms excitement, and stimulates metabolism. All heat is produced by motion or activity; the temperature of the body depends upon the vital power of the cell as it goes through its cycle of growth, nutrition and reproduction. The movements are modified by certain conditions; when these are normal we have a natural amount of heat production, but under accidental circumstances the cell is compelled to act more energetically, and with its increased energy there is produced more heat, which is manifested as fever.

Hyperthermia may be treated in two ways: First, by those agents which abstract heat from the body, as local or general application of cold water. Second, those drugs which diminish the internal generation of heat, either by stimulating the inhibitory heat nerve centres or by antagonizing the heat-exciting factors in the blood. Among the

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drugs for diminishing heat production quinine finds the greatest favor, but I must say I cannot speak of it very favorably; it deranges the nervous system, apt to cause headache, and disturbs digestion; moreover, it has to be given in very large doses to accomplish any reduction of temperature, and is a powerful heart sedative; and, as death in pneumonia usually occurs with a systole of the heart, a powerful sedation of that organ and a prolongation of the diastole might prove disastrous.

Acetanilid is apparently the safest of all the antipyretics. Nevertheless, in large doses it also produces a certain depression of the cardiac strength, which is undesirable in pneumonia. Two drachms is the dose I usually give, the temperature falling in about one to two hours, but it will rise again in about four to five hours. All the drugs are only temporary in their antithermic influence; nevertheless, they exert a very beneficial effect, inasmuch as the patient exhibits a certain amount of calm relief as soon as the temperature falls, and commences to eat.

Fashion rules in drugs as well as in dress, and hems are made wide or narrow, according to the dictates of the leaders. The therapeutical fashion for the treatment of pneumonia may be divided into six categories: (1). The depleting method; (2) the supportive; (3) the expectant; (4) the antipyretic; (5) the antiseptic; (6) the symptomatic.

The depleting method, I am sorry to say, has not yet been abandoned. Sweating with oil-silk bandages, bleeding, tartar emetic, veratrum, are the therapeutics still in vogue among some who stand high in the profession. Do these men ever stop to think that disease means a weakened constitution, and that the term sthenic and asthenic signify merely that some patients are weaker than others, and therefore need more support?

The expectant method carried out means the let-alone treatment, and it has found many strong advocates; but when we meet complicated and severe cases, according to the complication, age, condition, etc., of the patient, we lose faith in the mere water treatment.

In conclusion, I wish to make one remark: pneumonia is a disease peculiarly adapted to mislead in regard to the therapeutical data. Endowed with a critical defervescence, which is apt to appear anywhere from the fifth to the twelfth day of the disease, it is obvious that early defervescence will score to the credit of any drug that is used for any length of time. My greatest faith is in the cold water sponging, watching the heart, and keeping up the appetite.

Mention has been made of alcohol, and it is extensively used by some, but one should try to keep a clear idea as to its indications. I would say that the majority of pneumonia cases do not require alcohol; and, therefore, I can see no reason for giving it. I am thoroughly averse to its use in the early stages of pneumonia. Expectorants are of no use, as a rule, except to disturb digestion.

Then we may say that in all microbic diseases we have an illustration of that potent factor in the life of the organism, the struggle for existence and the survival of the fittest, and the energy expended in the battle is measured by the clinical thermometer in degrees of heat.

### ETIOLOGY OF TUBERCULOSIS.

ALBERT BABB, A.B., M.D.C., Springfield, Ill.

(A Paper read before the Illinois State Veterinary Medical Association.)

When Pandora opened the fatal chest which inundated the world with sorrow, misery and death, there was no greater pest escaped beneath its ominous lid, than this most widespread and mortal of all diseases—tuberculosis. Where the sun's rays fall there is its habitation, and no domestic animal is wholly exempt from its ravages. The crowded city and the public mart are its favorite places of abode, but there is no tribe of people, nor breed of animals accompanying it so far removed from the centres of civilization and refinement that its death grip and cadaverous visage are not sorrowfully familiar. Every human or animal tissue is liable to be invaded by its products, and the footprints of its silent journey are demonstrated on every dissecting table. It has been

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estimated that two-sevenths of all mankind are overcome by its onslaughts, and, as it is originally a disease of horned cattle, no doubt thousands upon thousands of our bovine friends, from the same cause, come to an untimely end, or go prematurely to the shambles where their quarters are duly tagged No. 4, sold at a reduction, and serve to spread the curse among the lower classes of society.

The antiquity of this disorder is well established. The great Hippocrates, justly styled the "Father of Medicine," was born on the small island of Cos, off the coast of the ancient province of Caria, in Asia Minor, about 470 years before Christ, and gave to the world the oldest account of medicine which it now possesses. He frequently discourses upon it, in the first and third books of the Epidemics and in the immortal Aphorisms, which the medical student of to-day would do well not only to consume, but also to ruminate, to digest and thoroughly to assimilate. He has both called it expressly by name and given us such a minute and accurate symptomatology of phthisis, that not even the most cursory reader can fail to recognize his vivid picture. In another part of the Hippocratic collection of manuscripts, it is distinctly stated that cattle, sheep and swine are very subject to tuberculosis, but it is argued that man is still more liable to its attacks. And from that remote date down to the present time, a large amount of the medical literature has been devoted to its consideration. Such is tuberculosis, to the etiology of which I now invite your attention.

In these most ancient writings no cause is assigned for the disease but heredity. However, this is modified by stating that changeable spring weather and certain slender conformations were accountable for its more frequent appearance. From the death of the renowned Hippocrates till about the four hundredth year of the present era, the science of medicine made little or no progress, its writers being content humbly to reiterate the opinions and sublime truths of their noble ancestor. In reality it scarcely held its own. After which the dark ages hovered over and settled down on Europe, like a pall, burying her in such thick darkness and

causing such a relapse into mental torpor, that medicine as a science was almost wholly unknown. So low in the intellectual scale did those countries sink, which in recent times have figured so prominently in polite literature and scientific attainments, that when Francisco Pizarro with a handful of Spanish adventurers overrun and subdued Peru he found a regal power in the New World which far surpassed, in the arts of civil government and quiet domestic amenities, anything of the kind which had existed in all Europe since the coming of Christ, excepting, perhaps, the Moorish supremacy located in the southern half of Spain, with its seat in the picturesque Alhambra.

The Arabs were the most learned people in medicine at that time, for while our ancestors were trying to charm away diseases and to cast out the supposed evil spirits by monkish trickery, the astute and perspective followers of Mahomet and the Koran were assiduously prying into nature for new therapeutical agents, and at Alexandria studiously dissecting the human body. Finally the lamp in their lighthouse died out, and there was not one beacon left burning to guide the intellectually-bewildered seamen of the Old World.

Centuries rolled by, but it was not till about the year 1600 of the Christian era that Europe began to shake off the coma and apathy which had so long before enshrouded her. Although there was thence a general awakening into intellectuality, yet it was as late as A. D. 1810 when any advance in the etiology of our particular disease was made. In that year Bayle demonstrated the existence of small peculiar nodules widely disseminated in the organs of consumptives. His statement aroused to new endeavors the pathologists of his day and they sought eagerly for the ultimate cause of tuberculosis.

Laennec, noticing the frequency of scrofulous glands in his phthisical subjects, called everything tubercular which was caseous in its nature, but Virchow, finding caseation occasionally in inflammatory processes and in cancerous ulceration, pronounced the miliary tubercle alone pathognomic of tuberculosis.

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The eager search went on, and in 1865 Villemin showed that the disease could be communicated to healthy animals by inoculation. This was a great advance, and now the foremost pathologists assumed an organized entity as the cause of consumption. At last, in 1881, the illustrious Robert Koch completed the long search by finding the bacillus tuberculosis. He announced and demonstrated that every tissue is tubercular which is excited into a morbid state by the pathogenetic action of these specific bacilli discovered by him. He cultivated the germ in artificial media for several generations, and, subsequently, with the products of his untiring zeal, inoculated various animals, transmitting to them the original disease with its peculiar semiology and post mortem lesions, showing conclusively that this particular bacillus was the cause of phthisis. In addition, this same bacillus has been discovered in all the various forms of tuberculosis, which are called by different appellations. Of these names, one of the most common is phthisis, from the Greek *φθίειν*, "to waste away," so designated on account of the extreme marasmus accompanying the last stages of this withering ailment; if the lesions are confined principally to the lungs, it is spoken of as phthisis pulmonalis, decline, pining, wasting or consumption; if it is enteric in its nature, the name tabes mesenterica, a perishing of the intestines, from the Latin *tabere*, "to decay," is used; if the lymphatic glands are involved, it is called scrofula from the Latin *scrofa*, "a breeding sow," as hogs were supposed to be subject to a similar complaint, or perhaps the swellings on the throat bore a fancied resemblance to little pigs. The cervical adenitis is also called quince, strumes from the Latin "*struma*," "a scrofulous tumor," hence those affected are said to possess the strumous diathesis, or king's evil, from its marked frequency in the royal families of the Old World, which were notoriously incestuous in their marriages, and this custom undoubtedly favored the propagation of the disorder. From the shape and color of the tubercular deposits in various parts of the cadaver, it is called in France *pommelierre*, a term allied to the Latin "*pomum*," "an apple," signifying "lumpy," or "in

balls;" in England "grapes," or "the pearly disease," which is the equivalent of the German "*perlsucht*," and in Scotland "crewels," or "angleberries." Likewise *lupus*, which is the Latin for "wolf," so named from its consuming nature and its rapacity, is now known to be tuberculosis of the skin, or tuberculosis verrucosa cutis. The generic term tuberculosis is derived from the Latin "*tuber*," a "bump," or "prominence," as such deposits usually are denser than the surrounding tissues.

Let us now turn our attention to the causes of the disease in each particular animal, or to the manner in which the contagium is communicated. On this subject our standard veterinary writers are lamentably culpable. As high an authority as Dr. Williams, in his "Principles and Practice of Veterinary Medicine," says: "We cannot, however, look upon tubercular diseases, as they occur in horned cattle, as belonging to the same category as the phthisis pulmonalis of man; but," he adds, "similar conditions, both extrinsic and intrinsic," cause a similar inflammatory process. This is certainly opposed to all the rules of sound logic to admit the same cause, the same result, and then to deny the mutual relationship. Furthermore, he states that tubercle results from certain changes in inflammatory processes, for which special changes he assigns no cause but predisposition. All in all, he seems, instead of elucidating the subject, laboriously to envelop it in a thick mist of metaphysical arguments and periphrastic expressions tending only to make it appear more recondite and mysterious. The plain fact in the case is this: that wherever the bacilli lodge there is tuberculosis, and it is the cause of the inflammation—not its sequela.

And certainly the works of the celebrated Dr. Fleming on the subject are no better. He sums up the matter as follows: "There are two causes which appear to be most potent in its production; these are prolonged lactation and a cold and damp atmosphere." "A cold atmosphere, and especially if it be also damp, is almost certain to induce the malady in cattle brought from a warm or mild climate." He then relates that a herd of South Devon cattle were removed from

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their native land to the cold highlands in France where they were all swept away by this plague. He further remarks: "So numerous were the cases of tuberculosis occurring among these cattle that local observers believed the disease to be contagious." Such arguments as these refute themselves, for years ago tuberculosis was proved to be highly contagious, being readily transmissible, not only among the various quadrupeds, but also from man to them and *vice versa*, and one can but express his amazement that Dr. Fleming, F.R.C.V.S., the great high priest of English veterinary medicine, should utter such nonsense. This serves to show that Dr. F. S. Billings was not far wrong, when in 1892 he stated that our veterinary books were "150 years behind the times."

This is the ultimate principle: for the disease to be communicated, the germs or their spores must be transmitted. It is not probable that the bacilli multiply outside of the animal body, as their pulutation requires a medium of from 85° to 105° Fahrenheit; but they retain their vitality and virulence at very great extremes of temperature. All the liquid excreta carry them and may convey the contagium to sound animals. They abound in the saliva. Phthisical sputum will impart the disease by inoculation even after it has been dried several weeks, and in this state is equally as virulent as moist. Contamination by inhaling dust mingled with this dried expectoration is the most common form of acquiring the germ in man and frequently imparts it to the domesticated animals. This is one cause of the frequency of the disease in the lungs and air passages, for the bacilli possess no motion of their own, but in a perfectly passive manner are carried about in the medium in which they exist till they reach a suitable nidus and proper pabulum for their multiplication. At first their lesions are always topical. Injections show that primarily they develop locally; if the inoculation be made in the anterior chamber of the eye, a tubercular iritis results; if in the abdominal cavity, a tubercular peritonitis; if in the coverings of the brain or spinal cord, a meningitis; if in a joint, an arthritis; and if in the lung substance, a pulmonary phthisis, etc. The expired air of contaminated sub-



jects contains bacilli, consequently close, hot barns, basement stables or box-cars may prove an occasional channel of infection.

Elaborate experiments have been conducted at many of the veterinary colleges across the water, and at the Munich Pathological Institute, showing positive results with various animals made to inhale atmosphere sprayed with distilled water, holding in solution sputum and the contents of tubercular cavities of lung tissue.

Animals, especially cattle, may become infected by licking one another, by drinking at a common watering place or by eating fodder previously polluted by the saliva of their kind. A cow may impart the germs to her newly dropped calf, in performing the first maternal duty of cleaning and drying it, or later in caressing it with her tongue about its mouth, nose or vulva, or in licking her own udder and teats.

The feed is also a fruitful source of the disorder, and one of the commonest vehicles for the germ is milk. The young of all the domestic animals, as well as infants, are frequently fed on the milk of the cow, of all quadrupeds the one most subject to phthisis. Her own offspring usually relies on her for its early sustenance, and pigs, dogs, cats and chickens often gain access to uncooked milk in one form or another.

The mammary gland of a phthisical bovine secretes the bacilli, and they pass off in the lacteal fluid even when there is no local tuberculosis present and no signs of mastitis in any form. But when the case is well advanced and gelatinous degeneration of the udder thoroughly established, then is her milk particularly dangerous.

On account of this very cause many a future candidate for show-yard honors is, during this period of rapid cell proliferation in calfhood, storing up in his system the seeds of an incurable malady which will, ere long, render him only valuable as a pathological curiosity to the student of veterinary science.

Any kind of ingesta may prove a carrier of the contagium. Many of the carnivora, as well as chickens and pigs, frequently get infected by eating the viscera of animals slaugh-

tered for human food or devouring parts of unburied carcasses.

Dogs and chickens further propagate the disease by picking up the sputum of the human phthisis, and the pig by consuming the offal or by drinking the urine of affected cattle. Rats and mice, by acquiring the disease about slaughterhouses, may transmit it to the dogs and cats devouring them.

The entrails of chickens, tainted with *tabes mesenterica*, frequently prove the death morsel of dogs, cats or pigs.

The abraded skin may be the first organ affected by the germ-carrying dust settling on the parts, or by saliva from the tongue.

Also, there is a possibility of animals, suffering from *eczema*, mange or lice, by frequenting a common rubbing-post, spreading the complaint by inoculating one another in the form of lupus, which tends to become disseminated from the corium of the derma through the lymphatic and blood vascular systems.

All the minor surgical operations furnish a means of propagating the evil, unless at all times strict antiseptic precautions be taken, for either the operator, the assistant or the nurse may be phthisical.

Circumcision of the infant has resulted fatally from a like cause. The germs may find entrance by a cavity in the carious tooth and eventually gain access to the systemic circulation.

These methods may seem too trivial to warrant mention, but it is well known to surgeons that large wounds are not, while small wounds are, readily susceptible to the action of the virus.

In regard to its heredity much has been written from the remotest times down to the present day. Cases of congenital tuberculosis with definite symptoms and lesions at birth have seldom, I believe, been reported, and in general the *tendency only* to this dread disease is inherited. This is in accord with the anatomy and physiology of the reproductive organs, for if the semen contained numerous bacilli, which

are motionless, the spermatozoa, which are very mobile, would leave the former deposited in the vagina, while they would move on into the uterus or even up the Fallopian tubes to meet and to fructify the ovum. As there is no direct communication between the blood of the dam and her foetus in utero, the latter would usually escape circulatory contamination. Hence, it is fair to conclude that very young tuberculous subjects become infected from causes acting subsequently to parturition, principally from the milk. But it can readily be perceived how the dam can be inoculated by coition with a diseased male or during delivery by the manipulation of a phthisical accoucheur. This is no utopian scheme of fine, attenuated reasoning, for injections of virus per vaginum in rabbits and bitches prove uniformly positive, though canines are by no means highly susceptible to the action of the contagium.

Tuberculosis is no respecter of persons. While it will doubtless undermine the weak in constitution more quickly, and develop more rapidly in a soil previously prepared by a prior pathological condition, yet neither the Herculean athlete in the circus nor the majestic shorthorn in the show-yard is exempt from its all-conquering visitations.

In conclusion, let it be remembered that the reception of the bacilli, or their spores, into the animal economy is *absolutely* essential to the development of tuberculosis, and that without them no amount of abuse or bad hygiene can cause it.

If these bacteria possessed motion of their own kind, and were of such quick growth as to avoid being eliminated before becoming established in the system, then the trouble would soon become nearly universal to the man and his lower but priceless companions, unless some modern champion of Æsculapian honors should arise more mighty than a Jenner, a Pasteur, a Billings or a Koch, able to battle with the prodigious foe, and, like the infant Hercules, to strangle the huge serpents which seem sent to bring about our destruction.

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## EXPERIMENTAL PRODUCTION OF PERIPNEUMONIA CONTAGIOSA WITH CULTURES—PROOF OF THE SPECIFICITY OF PNEUMOBACILLUS LIQUEFACIENS BOVIS.

By M. S. ARLOING.

(Extract from the Comptes rendus of the Academie des Sciences.)

I.—In the two papers already published I had condensed the result of my researches upon the bacteriology of bovine contagious peripneumonia. In the second, particularly, I exposed my attempts to determine the microbe producer of the disease, and said that the determination of a pathogenic microbe was complete when by the inoculation of its cultures the lesions from which it proceeded were reproduced. I also stated then that it had been impossible for me so far to reproduce exactly—that is, with all their intensity—the characteristic lesions of the natural peripneumonia, or those accompanying sometimes the inoculation of pulmonary virulent serosity in the subcutaneous connective or dermic tissue with pure cultures of the microbe I have called *pneumobacillus liquefaciens bovis*. And yet I had concluded to its specificity because of a series of facts observed in my numerous attempts to inoculate which, though of secondary value, agreed altogether.

Since that time I continued my pursuit of the positive proof of my assertion, viz., the integrate reproduction of the lesions produced by the peripneumonic virus in the living and in the connective tissue with the cultures of the microbe above named.

The doubts which had been raised upon the etiological value of the pneumobacillus by those among us who had studied the disease, urged me to furnish this demonstration, and especially when among the disbelievers the supposition was expressed that peripneumonia was probably the work of a living particle, escaping all the means of cultures and coloration actually used in the study of the known microbes.

Working along, I had observed that the pneumobacillus, in its culture of bouillon, gave out toxic substances to which

animals having peripneumonic lesions were more sensitive than healthy animals. And, besides, I convinced myself that complete cultures, under a given virulent state, would give to the bovine an equivalent equal to that produced by the serosity of the diseased lung inoculated according to Dr. Willems' method, and without exposing him to any dangerous condition.

Of these facts more later on. To-day I desire to show: 1st, that the essential agent of the virus acts like other ordinary microbes; 2d, that this agent is the pneumobacillus.

II.—Admitting that peripneumonic virulency is functions of a living particle, it must increase with the number of particles existing in the serosity of the diseased lung. If this particle is an ordinary microbe, and if its vehicle can act for it as a media of culture in placing the serosity simply in the conditions where the microbe may multiply, its activity will increase to a certain degree and in proportion to the duration of the culture.

Consequently, if by inoculating under the skin of a bovine equal quantities of pulmonary serosity, collected pure and first submitted to an incubation at  $+35^{\circ}$ , local effects are obtained and increase in proportion to the length of the incubation, one will conclude that the peripneumonic virulency is function of an ordinary microbe. Experiment has furnished evidences confirming the foregoing.

Pulmonary serosity increases in virulency and becomes slightly cloudy in the hot air. The cloudiness is due to the numeric increase of the germs, to their multiplication, as it is proven by the culture in spread gelatine when this operation is possible.

From these experiences cannot one infer that the pathogenic agents of peripneumonia are living particles, able to multiply in their natural vehicle; in other words, are microbes such as a certain number of those that we know?

III.—Cultures of serosities, taken out of an incubative store, made in spread gelatine, have simultaneously shown an increase in the virulency and in the number of the germs.

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If I add that the colonies where the germs are more numerous are liquefying, it will be logical to conclude that the *pneumobacillus liquefaciens* is the pathogenic agent of peripneumonia.

However, as this mode of demonstration might yet be only an indirect solution to the second question of this paper, I will not further insist, as I am prepared to give a positive answer, as follows:

First, I was convinced that the effects of my inoculations to demonstrate the etiological part of the pneumobacillus had proved insufficient because of the activity of the microbe grown in my cultures having originally been too weak. And again, I have observed, as early as 1889, that the organisms contained in the pulmonary serosity had become more virulent while growing under the skin of cattle. I was therefore justified in hoping to find more active microbes, such as I desire them, in the caudal lesions following. Some trust the inoculation by Willems' method, lesions gradually increasing notwithstanding the bad surrounding conditions. I was anxious to undertake a new series of cultures and of observations. Mr. Robcis, sanitary veterinarian, of Paris, gave me the opportunity.

In the deep layer of the dermis and in the intermuscular connective tissue of a caudal region tumefied under the influence of a peripneumonic virus, I found a great many more microbes than in the centre of pulmonary lesions. These microbes multiplied rapidly and abundantly in beef bouillon strongly peptonized.

By Koch's method for the isolation of the species I separated from the cultures two bacilli differing principally from each other by the power of one to rapidly liquefy gelatine. The non-liquefying bacillus is generally shorter than the other. Both are abundantly provided with ciliæ. The liquefying bacillus answers exactly to the characters that I found long ago in the pneumobacillus. In cultivating pure I was enabled to experiment on its physiological action.

First, I had been surprised at the intensity of the subcutaneous effects of 2 c.c. of a second generation—effects

that were quick but exactly similar to those of the most active pulmonary serosity. I thought the opportunity excellent to try to obtain fructuous nitro-pulmonary inoculations. I prepared a culture of third generation, and the next day I pushed 2 c.c. in the thickness of the right lung of a fifteen months bull. This was repeated the next day. Three days later the animal was killed. At the post mortem I found a pneumonic mass of the size of the wrist, presenting to the highest degree all the characters of the lesions of the natural contagion.

In a second experiment I inoculated in the lung of a young bovine a culture of fourth generation, with the small dose of 0 c.c. 5, to avoid the immediate toxic effects of large doses, and renewed the inoculation for three days with cultures of following successive generations. Six days after the first inoculation the animal was killed. The post mortem showed well characterized pneumonic centers and pleuritic lesions opposite them, as well as at the antero-inferior part of the chest.

In a third experiment, to still better avoid the immediate toxic effects, I simply injected the microbes contained in 10 c.c. of a tenth generation culture. The injection having been introduced a little too far back, the bacilli were by chance deposited beyond the lungs, on both faces of the diaphragm. At the post mortem made five days later I found a sero-fibrinous thickening of the diaphragm, extending to the lung in front, to the peritoneum and the liver behind, in such a way that the three organs formed the center of a tumor surrounded with false membranes. I found, besides, a well-marked pleurisy on a level with the pericardium and the two anterior lobes of the lung, citrine effusion in the pleura, enlargement of the mediastinal and sub-pleural lymphatic glands.

IV.—To conclude, I have reproduced in the bovine, with pure cultures of the pneumobacillus taken between the second and the tenth generations, the typical alterations produced under the skin or in the chest by the virus of the peripneumonic contagiosa. I then peremptorily can say, first,

that the virulent agent of contagious peripneumonia is an ordinary microbe; second, that this microbe is the *pneumobacillus liquefaciens bovis*.

## STRONGYLUS TETRACANTHUS AND STRONGYLUS ARMATUS AS A CAUSE OF DEATH.

By GEORGE DITEWIG, D.V.S., Canton, Ill.

(A Paper read before the Illinois State Veterinary Medical Association.)

In this paper I shall endeavor to recite my experience and observations while treating a small herd of colts that were seriously afflicted with the parasites, strongylus tetracanthus and strongylus armatus. I do not presume to advance new facts or theories in regard to these parasites, but trust that the history of the cases mentioned will prove interesting from the fact that both parasites were present in such great numbers.

To give a detailed description and complete life history of the parasites would require some time, so I will not tire you with them; besides, you are doubtless more or less familiar with them. But to refer to them briefly will be in order. The strongylus tetracanthus is one of the small nematodes found in the intestines of the horse. The female is larger than the male, the length varying from one-fourth to three-fourths of an inch, depending upon sex and development. The more fully developed worm is of a bright red, the smaller a dirty gray or brownish color. The body is slightly tapering anteriorly, and are found in the cæcum and colon.

Life-segmentation of the ova takes place in the uterus; they are laid in the intestines of the host, from whence they are expelled with the fæces. If the conditions in the external world are favorable, they will hatch out in a few days; if at this time they enter into the body of the host, they will encyst themselves in the mucous membrane of the large bowels, until sexual maturity is attained, when they leave the membrane and enter the alimentary canal.

*Strongylus Armatus* (The Armed Sclerostome or Palisade

*Worm.*—For a very complete description of the parasite I refer my hearers to a very able article by Dr. J. F. Winchester in the *AMERICAN VETERINARY REVIEW*, Vol. XVII, No. 7.

Body gray or brown, shaded with red, female larger and thicker than male, length varying from three-fourths of one to two inches, depending upon sex and maturity.

The following is from Williams :

"The sexually mature adults found in the cæcum and colon ; seldom in the duodenum, pancreas and tunica vaginalis of the testes. The larval forms in aneurisms of the intestinal arteries, the eggs come out with the excrements and develop free living larval forms in water, and thence into the blood vessels, where they cause aneurisms ; becoming sexually mature, they leave the aneurisms and bore their way into the alimentary canal where they copulate."

In the last week of November, of 1894, I was called to the farm of E. Brown, a friend and patron, place about fourteen miles distant, to examine a herd of colts. Received the following history : In the spring the colts had been placed in a rented pasture about four or five miles distant, and there remained until within a few days previous to my visit. While in pasture they had been visited at different times by the owner, who noted that they were in poor condition, and unthrifty. This was attributed to short pasture during the summer drought. They had not, however, been visited for quite a period previous to November ; in the last week of that month the keeper of the pasture informed him, that one of the colts, a two-year-old, had died, the rest doing very poorly. They were promptly brought home and placed in the comfortable box stalls in which I found them.

The pasture was described as rolling timber land, with a portion of lowland. Water was supplied by a spring, which during the summer drought ran low, yielding barely enough to replenish a few stagnant pools. After a careful examination of the herd, then consisting of three yearlings and two two-year-olds, I was forced to the conclusion that a more sorry looking and dejected lot of colts it had never been my lot to see. Weak and very much emaciated, tucked in the

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flanks, rough, harsh coat, pulse weak and soft, somewhat increased in frequency, slight elevation of temperature, respirations about normal, mouth a soapy feel, and pale, visible mucous membrane, some œdema of the hind legs, appetite almost entirely absent, all would nibble some at their feed, but with little show of relish. All would lie down more than strong or healthy colts usually do, one so weak that when down required assistance to regain his feet. Intestinal rumblings were frequent, and loud enough to be heard at some distance. There was present diarrhœa, varying in severity with the different colts; the fœcal matters were, some grayish, some greenish in color; odor foetid. On the surfaces of the fœcal masses were in great numbers the parasites strongylus tetracanthus, also an occasional undeveloped strongylus armatus. The dullness and languor exhibited in the movements, and woe-begone expression of countenance, were well in keeping with the general condition of the colts.

*Diagnosis.*—Intestinal catarrh, induced by intestinal parasites, anæmia and debility as a result.

*Treatment.*—Dry beds, comfortable box stalls, an abundant, nutritious and varied diet, consisting of oats, bran, ear corn, ground feed, chopped corn fodder and timothy hay, given fresh and as often as the colts desired, milk and eggs if they were to be had. Authorities usually recommend oil and turpentine. To commence with I ordered spiritus terebinthinæ, one and two tablespoonfuls, with four ounces of olei lini, every twelve hours, until active purgation was produced. This effect was easily obtained because of the already existing diarrhœa. The result was an increased number of the parasites in the excrements, but this result, if beneficial, did not overbalance another effect, that of greater emaciation and loss of appetite. Acting on the conclusion that purgation was injurious to my patients, I followed a different course. Tincture opii, tincture catechu, spiritus terebinthinæ, in a drench of milk, two or three times daily, until diarrhœa was checked. A powder was also given, consisting of ferri sulphas exsic., powdered zingiber, powdered gentian rt., powdered hydrastis can., given three times daily.



This and the opium mixture was the treatment for some time, the powder constantly, the mixture whenever the diarrhoea required a check; some improvement in appetite and general action, but not enough, so the oil and turpentine were again tried as before, because books said give oil and turpentine, but the *oil* was again discontinued for reasons already mentioned.

The patients received good care, warm shelter, appetites tempted in every convenient way, so that a moderate amount of nourishment was taken, but to no purpose. The patients grew thinner and weaker, the diarrhoea persisted in its returns. One at a time became too weak to regain the standing position without help, and when that point was reached death followed in a short time, so that by the New Year the second, third, fourth died; the fifth, a yearling, died during the last week in January; from the latter the post mortem description is taken. The sixth, a two-year-old, when last seen, seemed in a fair way to recover; this one throughout was least troubled with diarrhoea, has regained his appetite and taken on some flesh.

*Post Mortem.*—Subject, a yearling gelding, the fifth of the herd to die. Time of examination, two hours after death. The common expression, "nothing but skin and bones," would well have described the appearance of the cadaver. Visible mucous membranes pearly white; opening incision along the median line, the abdominal tissues and muscles pale and anæmic. With the exception of the liver and the right lung, which were slightly darkened by hypostatic congestion (the subject lay on the right side some time before death as well as after), the pale and anæmic appearance of the various abdominal and thoracic viscera was most striking.

The deficiency of blood was so marked a condition that one marveled how the vital processes continued to operate as long as they did. The stomach, empty, pale; liver, somewhat shrunken, firmer and harder to touch than normal, granular on section. The small intestines contained a small quantity of fluid alimentary material, also a few lumbricoids; the walls were pale and thin, presenting a transparent ap-

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pearance; imagine them much distended with air and you will have pictured to yourselves their thin appearance. The cæcum, partly filled with alimentary material in which were to be seen the strongylus tetracanthus in great abundance; the mucous membrane of this organ was an interesting study; when washed the mucous surface was a mixture of dirty gray and olive green in color; the latter I ascribe to the action of the iron administered in the powders; the membrane, œdematous, lacked firmness and was easily torn. Close inspection of the surface revealed the presence in almost countless numbers of small spots that appeared as reddish or dark points. A sufficient number of these were examined to prove that each one was or had been the home of a developing tetracanthus. Pick an opening into the membrane at one of the points and one of the parasites, neatly coiled, could be seen. The description of the cæcal membrane will do for that of the great colon.

It would be difficult to estimate the number of these parasites lodged within the membrane of the great colon and cæcum. Suffice it to say that thousands had been expelled and thousands yet remained.

The membrane of the floating colon contained few, if any, of the parasites. So much for the tetracanthus.

To describe accurately all the lesions (principally of the blood vessels) produced by the strongylus armatus would require a handier pen than mine, but I submit for your inspection a section of the colic artery that will testify very strongly to the destructive work of the armatus when present in large numbers. In the specimen you will perceive there has been present a severe endo-arteritis, and that instead of a smooth channel for the passage of the blood there remains a rough, lacerated and irregular canal through which the blood must creep and wind about to circulate. The arterial wall is enormously thickened by hyperplasia of the connective tissue elements, the middle coat in particular. Free on the inner wall or buried in the arterial tissues, or with head or tail projecting into the blood stream are numerous undeveloped strongylus armatus, like the specimen, was the condition of

the greater portion of the colic artery. The great mesenteric and many of its branches exhibited similar lesions. The cæliac axis and branches did not escape, the hepatic at the posterior fissure of the liver harboring many of the parasites.

Along the course of the colic arteries and lesser curvature of the great colon was a chain of tumors varying in size from a pea to a walnut. Cutting showed them to be abscesses containing a creamy pus in which floated usually one strongylus. Scarcely a blood-vessel of the digestive tract escaped their ravages. Aneurisms of any marked size were absent.

Here and there, in the worst affected arteries, were small adherent thrombi. Near the pelvic flexure of the great colon, between the layers of the mezo-colon, was a large blood-clot, perhaps two pounds in weight. This hæmorrhage was probably due to perforation of an arterial wall by one of the parasites, or rupture of one of the small aneurisms of the colic artery. No matter where cut, in the arteries could be seen the pale pink forms of the undeveloped armatus parasites. They numbered throughout, stating it mildly, hundreds.

This was the only autopsy made, but the history, symptoms, course and termination being so markedly similar in all the fatal cases leads me to conclude that all would have presented similar lesions had the examination been made.

In closing, will venture some conclusions:

First, that death was the result of anæmia, marasmus, prostration and collapse.

That the progressive anæmia was due to the continual interference with the nutritive functions of absorption and assimilation.

That the diarrhœa was caused by the disturbed intestinal circulation and irritated intestinal mucous membrane.

That the weakness and marasmus followed as natural results of anæmia and diarrhœa.

That the causes continuing in operation, the effects not only continued but became so marked that the vital forces gave way, and death followed.

That the strongylus armatus in the intestinal arteries, and the strongylus tetracanthus in and on the intestinal mucous membrane were the first causes.

That the pathological changes are produced by the armatus in certain structures, and, as a result, of these changes interference with the necessary functions of these organs, prove the armatus responsible in the greatest measure for the death of the host.

That the tetracanthus by its presence shares with the armatus a part of the responsibility.

That though the hosts harbored thousands of the tetracanthus strongylus, it is doubtful if they alone would have caused death.

That previous to and since my detailed experience I have treated not a few weak anæmic colts and horses afflicted with the tetracanthus, recovery has been the rule; in fact, I cannot recall any fatal cases (the subjects under consideration excepted), and arrived at the conclusion that it required simply an enormous number of the red parasites to kill the host, and still believe that conclusion correct.

That when death is apparently due to the tetracanthus, careful inspection be practiced to discover if the armatus is not also present. If present, to what extent.

That how to demonstrate the presence of the armatus in dangerous numbers in the living animal is something I have yet to learn. The symptoms exhibited by the colts in question can be attributed to the tetracanthus as well as the armatus.

That it is manifestly difficult to suggest a feasible plan of prevention. Draining ponds and low lands and supplying stock with water from wells and cisterns would probably be a step in the right direction.

That we have no specific treatment or sure cure. I wish we had.

That the study of "animal parasitisms" is worthy all the attention that we as veterinarians are wont to bestow upon it, perhaps more.

## BOVINE TUBERCULOSIS.

TREATING ON THE DANGER FROM COW'S MILK, AND THE  
LEGISLATIVE CONTROL OF BOVINE TUBERCULOSIS.

By JOHN M. PARKER, D.V.S., Haverhill, Mass.

[Continued from page 195.]

While Dr. Peters, when he was Chief Inspector of Stock for New York State, in a report to the United States Veterinary Medical Association in October, 1893, said: "In suspicious cases when doubt is felt as to whether an animal is tuberculous or not, it is well worthy a trial; and in herds where a number of cases of tuberculosis are found, I believe it to be advisable to test the entire herd with it. I do not, however, believe it necessary or practical to go to every farm in the country and test with tuberculin every cow to be found; but if it be inspected in the ordinary way and found to be healthy, I consider that sufficient."

From this it is evident that those best able to judge are not unanimous in their opinion as to the best methods to adopt.

In discussing the question before the Legislative Committee the Cattle Commissioners referred to the measures so successfully adopted to suppress contagious pleuro-pneumonia in this State. Further, the Governor in his inaugural address referred to the success attending the adoption of these measures, thereby leading to the supposition that as these measures were so successful in combatting contagious pleuro-pneumonia, they would probably be equally successful in combatting bovine tuberculosis.

Now, it seems to me that these two diseases are entirely different. Contagious pleuro-pneumonia is an extremely rapid and fatal disease. According to the special "Report on Diseases of Cattle," published by the Bureau of Animal Industry, the disease will develop in from three to six weeks after exposure, and often acute cases are fatal in from seven to twenty days after the animal is attacked. On an average 40 per cent. (and according to some authorities 80 per cent.,

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Jour. of Comp. Path.) of animals exposed will contract the disease, and about 50 per cent. of these will die. Further, contagious pleuro-pneumonia is found only in the bovine.

On the other hand, bovine tuberculosis is an extremely slow and chronic disease; it is not a fatal disease; it is not a highly contagious disease, for a large proportion of cases are entirely harmless; and further, it is not confined to the bovine, but is found in all domestic animals.

In a Report of the Department Committee on Tuberculosis in Great Britain, appointed April, 1888, it is stated that the order in which animals are liable to be affected is man, milk cows, rodents, pigs, goats, sheep, horses and carnivora. (Annual of Medical Sciences, 1890). Further, the bacillus of tuberculosis has been found in bedbugs (Bulletin of Vermont Agr. Exp. Station, 1893), as well as earth worms, on paper money, and on the dust of public thoroughfares, etc.

When the last case of contagious pleuro-pneumonia is destroyed the danger ceases to exist. With bovine tuberculosis it is entirely different, and I believe certain of the members of the Massachusetts Cattle Commissioners do not dispute it. We have Dr. Lyman's opinion in the Report of the Board for the year 1893, where he says tuberculosis cannot be *stamped out*, it must be *weeded out*, or words to that effect. (Cattle Com. Report, January, 1894.)

Prof. Stockbridge, at that time Chairman of the Board, gave his opinion at a meeting of the Massachusetts Veterinary Association in May, 1894, when he said:

"But we are not so green about tuberculin as we might be, and really I can say that a great deal of good in the way of diminishing this disease may be done by the use of tuberculin, and, therefore, I think the Commission should recommend to owners to use tuberculin, and we think that really a very great advance may be made by its use; but if you believe you are going to stamp out tuberculosis by the use of tuberculin, as we stamp out contagious pleuro-pneumonia, I say, no, we will never do that. We can diminish it, but can never stamp it out. But when our medical profession treat it as a contagious disease, we shall make more advance with the bovine."

Again, in an editorial in the *AMERICAN VETERINARY REVIEW*, Prof. Liautard says: "Tuberculosis, on the contrary, can never be entirely extinguished, and, at best, the opportunities for its transmissibility to human beings can only be diminished, and that only to a very limited extent, and only, also, with the possibility of a temporary check to a new extension. It is not our desire to criticise at present the work recommended by the honorable Chairman of the Cattle Commission of Massachusetts [Prof. Osgood], but we fear that in his enthusiasm, or by higher orders, he is obliged to carry out an undertaking which will not prove as satisfactory as that carried out in days when pleuro-pneumonia existed in that state."

And further, previous to the hearing before the Senate Committee on Agriculture and Public Health, I sent the following telegraph message to Prof. Liautard, New York; Prof. Leonard Pearson, University of Pennsylvania, and to Dr. Horace Hoskins, Philadelphia, Pa. "Can bovine tuberculosis be stamped out in Massachusetts as contagious pleuro-pneumonia was stamped out?"

Prof. Liautard answered :

NEW YORK, February 10.

DR. JOHN M. PARKER, Haverhill, Mass.:  
Most decidedly, No.

A. LIAUTARD.

Prof. Pearson answered :

PHILADELPHIA, PA., February 10.

JOHN M. PARKER, Haverhill, Mass.:  
Pleuro-pneumonia method will not do for tuberculosis.

LEONARD PEARSON.

And Dr. Hoskins answered :

PHILADELPHIA, PA., February 10.

JOHN M. PARKER, Haverhill, Mass.:  
I doubt it, they differ so greatly.

HOSKINS.

Again, Prof. Paige of the Massachusetts Agricultural College, in a bulletin lately published, says that "our old-styled and unsanitary stables, thoroughly infected with the germs of tuberculosis, make the complete eradication and suppression of this disease well nigh impossible." (*Hatch Exp. Station Bulletin No. 27, Dec., 1894.*)

While in the Bulletin No. 7, published in the fall of 1894, by the Bureau of Animal Industry, on "Investigations Concerning Bovine Tuberculosis," Dr. Smith says:

"Tuberculosis among domesticated animals, more particularly among cattle, has during the past few years received a large share of attention, mainly because of the possible direct influence on human health. With this idea in the foreground the bearing of this malady on agricultural interests has been more or less obscured. As a result we have a great mass of publications on the hygienic aspect of tuberculosis and but very little on the prevention of this disease among cattle. Many of the more valuable contributions to our knowledge have been made in order to define more definitely what degree of tuberculosis makes an animal unfit for human food. This point of view, while bringing out now and then valuable facts, does not pay sufficient attention to the *animal during life*. What to do in order to reduce the high percentage of infection *among living animals* has been tacitly ignored in all but a few recent publications. It became evident to the writer on beginning these studies, that this was, after all, the most important aspect of the serious problem of bovine tuberculosis. *If the disease can be restricted and suppressed among cattle during life* the hygienic problem will take care of itself.

"To attack tuberculosis as it exists at present is undoubtedly a most difficult problem, and the conditions which tend to repress or to augment its further dissemination are very complex. No single measure, however sweeping, is likely to be successful. A number of details will have to receive careful attention and, in the end, the success will depend largely upon the amount of intelligent watchfulness constantly exercised in various directions by the stock owner. The wide dissemination and the localized intensity of this disease will require, above all, concerted action in attempts for its repression. Though a strictly bacterial disease and introduced into the body only by the tubercle bacillus, which is always derived from some pre-existing case of disease, tuberculosis differs, nevertheless, from most animal diseases in very important particulars. Its unknown beginnings in the body,

and its slow, insidious march after it has once gained a foothold are responsible for the existence of a large number of tuberculous animals in all stages of the disease. In the earlier stages, while the disease is still restricted to a single focus, the animal is to all outward appearances in perfect health. It is only after the infection has invaded several cavities of the body or produced mechanical obstructions that it becomes manifest. The prolonged latency of the first stage of the disease, with little or no discharge of tubercle bacilli, raises the question what should be done in such cases. A comparison with some other infectious diseases makes the predicament all the clearer.

"When an animal becomes infected with anthrax or with Texas fever the specific micro-organisms begin to multiply at once. Within twenty-four hours in the case of anthrax, a few days to a week in Texas fever, the symptoms are fully developed and death or recovery speedily follows. There can be no question here concerning degree of disease or utility of the animal during the earlier stages. The infected and the non-infected are divided by sharp, unmistakable barriers. In tuberculosis, on the other hand, the infected animal is practically well during the earliest stages of disease and the disease may become stationary, possibly healed. In certain diseases the necessity for the destruction of all infected animals becomes imperative, because the disease must be kept restricted and suppressed as soon as possible. The present wide dissemination of this disease and its prevalence among other domesticated animals, such as dogs, cats, horses, goats, and, above all, its prevalence among man, makes the complete extinction of this malady an unrealizable problem."

Now it seems to me that the authorities at Washington have struck the nail full on the head in this matter.

Before we can prevent disease, it is necessary to study the causes that lead to its prevalence, and then attempt to remedy these causes. To do any good we must get at the root of the matter; we must study to prevent disease in the animal *during its lifetime*.

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because of their mode of life, and the way they are kept, and bred, and fed.

In this connection I shall refer to an article by Dr. Herman Biggs, bacteriologist to the New York Board of Health, contributed to *The Forum* (Feb., 1894). He writes as follows:

"While tuberculosis is communicable, it is far less so than many other diseases which are more properly called contagious. Ordinarily for its transmission, long exposure to infection, and intimate association with the infected individual, are required, unless because of some peculiar conditions the natural resistance has been much reduced.

"Influences which depress the general vitality, or which produce more or less chronic affections of the air passages, increase the susceptibility. Foul air, unhealthy occupations, food poor in quality or insufficient in quantity, impaired nutrition, defective ventilation, heredity, bronchial, and pulmonary inflammations, all act as important factors in creating a soil which is favorable for the development of the tubercle bacillus, when once it has gained entrance."

And in the report of the second Congress for the Study of Tuberculosis, held in Paris in July, 1891, it was said that, "if there is one thing above all others to be learned from the study of this well worn, but still obscure subject of tuberculosis, it is that the bacillus alone does not constitute the disease. The host is obviously not the least important element, and the only hopeful means of conquest must be on the lines of physiological resistance. The soil must be rendered sterile." *Med. Record*, Sept. 2, 1893.)

All medical men know the influence of surroundings on the health of the animal body. Pages of statistics could be quoted and figures given in support of this, but I take it that that would be unnecessary. The immense importance of sanitary and hygienic conditions is generally accepted by everyone.

As showing the influence of sanitary conditions on health, however, I would like briefly to call your attention to an extract from the *Med. Record*, (Dec. 30, 1893.) In referring to sanitary conditions in Great Britain, the author says: "The average annual death rate throughout England and Wales



during the twenty years previous to 1870 did not vary greatly from 22.5 per 1,000 of population, and it was estimated by Mr. Simon that 125,000 persons died each year of diseases due to defective sanitary conditions. Although Simon's figures were thought by some to be exaggerated, they nevertheless had great weight in persuading Parliament to adopt the reforms recommended by him. During the next twenty years extensive improvements were carried out on a large scale, with the result that in 1889 the mortality had fallen to 17.9 per 1,000, thus more than justifying the calculations of Simon."

The statistics collected by Dr. Buchanan on this subject are also instructive :

In Salisbury, England, after the introduction of improved drainage, the annual death rate from phthisis fell from  $44\frac{1}{2}$  per 10,000 to  $22\frac{1}{2}$  per 10,000 between 1857 and 1864. In the same period of time, in the towns of Ely, Rugby, Worthing, Macclesfield, Leicester, Newport and Banbury, the death rate from phthisis fell 47, 43, 36, 51, 52, 52, and 50 per cent., respectively, in consequence of improved drainage alone.

While in the French cavalry barracks, after better sanitary measures were adopted, cases of non-specific diseases of the lungs fell from 104.7 per 1,000 to 3.59 per 1,000, and the only conditions present to account for this remarkable change was increased facility for ventilation and increased cubic space." (*Journal of Comp. Med.*, Oct., 1893.)

The importance of this matter is also shown in Dr. Ernst's report on his experiments at Matapan, where, in referring to the effect of improved sanitary conditions on diseased cows, he says: "Before the farm buildings were used at all, they were thoroughly cleaned from top to bottom. Every portion of old manure was carted away, as well as all the old earth. The whole of the woodwork was scrubbed and then washed with corrosive sublimate solution (1:1000) and finally white-washed, and every care was taken to secure good drainage and ventilation. The result and effectiveness of all this have been best demonstrated by the fact that every animal brought to the place made a most marked improvement in its general condition, while some of them even went so far as to appear to get well." (Ernst.)

The same thing is shown in the case of some cattle at Mr. French's farm at North Andover, where several animals were slaughtered after testing with tuberculin; a number of the remaining animals that reacted to the tuberculin test were turned out to pasture, and in the fall they were brought in and retested by the State authorities and they failed to react, the recovery evidently having resulted from the open air life in pasture during the summer months.

A similar incident is related by Prof. Law. He says: "In 1877 I recognized the existence of tuberculosis in the Jersey herd of Burden Bros., of Troy, N. Y. The worst were slaughtered, but some incipient cases in young animals were turned out in a pasture by themselves, where they passed the summer in apparently robust health, but they began to droop when returned to the barns in the fall. (Paper by Prof. James Law, read at Peterborough, N. H., December, 1892.)

*(To be continued.)*

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## REPORTS OF CASES.

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### GASTRALGIA IN A HORSE, WITH CARDIAC COMPLICATIONS.

By ROSCOE R. BELL, D.V.S., Brooklyn, N. Y.

The patient was a dark brown gelding, 9 years old, 16 hands, weighing 1,150 pounds, the property of the Department of Police, having performed his work as a patrol wagon horse satisfactorily for some three or four years without any history of sickness during the time he had been in the service.

As veterinarian to the department I was called to examine this horse for lameness in the off hind leg, having become disabled without known cause. My examination revealed nothing definite, except that the location of the lesion was apparently in the muscles of the anterior crural region. From general appearances I regarded it as somewhat obscure, with the probability of muscular rheumatism. I ordered the animal sent to my hospital for the purpose of observation and treatment. He was placed in a box-stall and prepared

for a cathartic, which was administered the next morning. On the morning of the second day after the exhibition of the aloetic pill, my attention was called to the patient, and, on examination I found him to be much nauseated, and that his pulse was extremely fast, his heart beating at the rate of 80 per minute, but that the temperature was but little affected, being  $100.5^{\circ}$  F. He refused all food of whatever nature and appeared to be suffering from slight gastric pain. Occasionally he would lie down, stretch his neck and head at full length and curl his upper lip. The bowels were moving freely, but apparently without causing griping. On account of the alarming condition of the pulse it was deemed best to quiet the excited intestinal peristalsis, and consequently the patient received the following bolus:

℞ Extracti Opii., 3i,  
Pulv. Plumbi Acetatis, 3ii.

This had the desired effect, and no more fluid fæces was voided.

The observation was now made that the lameness for which he was being treated had entirely disappeared.

For the next three or four days there was but little change in his condition. No food of any kind passed his lips—not a spear of grass, not a grain of oats, not a particle of bran nor hay nor food of any description.

The epigastric pain ceased, but the pulse assumed a most peculiar character. For half a minute possibly it would beat at the rate of 100 per minute, for the remaining half at the rate of 36 or 40 per minute. All this time the temperature registered either  $100^{\circ}$  or  $100.5^{\circ}$  F., respiration a little above normal, eyes bright, ears erect, and thirst a little above normal.

I can complete my story in much less space if I bunch the history for the next five or six days by saying the last described symptoms persisted about the same, until after eleven days he partook of one bite of grass, which he masticated and swallowed, and on the thirteenth day began to partake of hay in small quantity.

In a few days he was eating well; his pulse, which had

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been gradually improving, both in number and regularity of beats, was at this time normal, and when he had progressed thus far he became quite lame in the muscles of one shoulder. This lameness gradually passed away, and a week ago, after having been a month at pasture, he was returned to his precinct entirely well, and feeling livelier and stronger than he had ever been known to be.

To sum up the symptoms, there was rheumatic lameness in a hind leg; a revulsive action upon the system transferred the seat of the rheumatism from this extremity to the stomach and heart, after which it was removed by metastasis to a fore limb, and then left the system.

Treatment of an anti-rheumatic nature was indulged in throughout, and, as the thirst was considerable, stimulants and nutrients were administered in this way.

I record this case, not on account of any skill displayed in causing a recovery, but because gastralgia in a form in which it could be recognized has never before occurred in my practice, and is not dwelt upon in our text-books as a disease likely to be met with in a practical way. Whether it is not a frequent complication in those stubborn cases of rheumatism which we sometimes meet where almost complete anorexia persists for a long time, I am, of course, not prepared to say; but my experience in this case will lead me to make very careful examination of this class of patients in the future. It will explain the condition that there exists more nearly than any other disease. It is morally certain that there is, in most of these cases, no structural lesions, because complete recovery often occurs without medication or explanatory reason.

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#### AN OBSTINATE CASE OF INDIGESTION.

By G. E. GRIFFIN, D.V.S., Fifth U. S. Cavalry, San Antonio, Texas.

A sorrel gelding, five years old, sixteen hands high, well bred and used for driving purposes, was taken ill about two years and six months ago with an acute attack of laryngitis, from which he suffered from six to eight days, the inflamma-

tion being so great that respiration was impeded, and we were constantly prepared to do tracheotomy. After recovery, there was considerable difficulty in deglutition of water for three months, but this finally disappeared and animal improved in health, spirits and condition. Last October the animal was again attacked with laryngitis, which lasted for about sixteen days; animal had great difficulty in deglutition, which lasted for three months, gradually lost flesh and spirit until finally he became a shadow of his former self. At this point he was taken into our private stable, fed six times a day, a pound of food being given at each meal. He had been on tonics for weeks previous to this, but without results. The conditions remained the same under the new scheme for about six weeks, when a slight improvement was noticed; this improvement continued for about a month, when the animal suddenly refused all feed and commenced to again fall away. Food in the shape of green oats and sorghum was now offered and was partaken of sparingly; but appetite began to improve and at such a rate that upward of ten pounds of dry oats, twelve pounds of hay and ten pounds of green food were consumed daily, but without any increase in weight. Tape worm was suspected, but, although a constant watch was kept, no sign of any was observed. Teeth are in perfect condition and food is well masticated, but the droppings always partake of the color of the food ingested. A dry, sticky, clammy condition of the mouth and tongue has been, and is still present, although it has improved some in the past four weeks. Lately all tonics have been suspended, but without any apparent effect.

The animal's temperature has been normal since recovery from last attack of laryngitis; respiration normal, except when exercised, when it is labored; pulse is weak and soft; animal is now in good spirits, eating fairly well, but is still unable to put on flesh or regain his original form. This patient has always had a habit of licking wagon tires, old iron fences, etc., and since he has been under treatment has developed an abnormal appetite for eating earth.

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## NERVOSA GENERALIS.

BY THE SAME.

April 10th, called to see a four-year-old Jersey cow that was down and unable to rise. Foreman of ranch on which the cow lived said animal went down on 8th. A self-styled veterinary surgeon was called in, diagnosed case as nail in the foot, but the examination did not bear out the diagnosis. He then came to the conclusion that the animal was "strained in the kidneys," and treated her accordingly. She still continued down, however.

On examination, animal appeared to be resting easily on right side, hind legs drawn under and knees turned in; temperature elevated one degree (probably from recent effort to regain feet); pulse normal, except slightly increased in frequency; respiration considerably accelerated. While examination was in progress our setter dog entered the stable, when patient made an extraordinary effort to regain feet, but without success. Urine plentiful, but darker than usual; bowels slightly constipated, appetite fair.

Foreman knew animal for two years, never had this condition to exist before, never sick, always calved without any difficulty and was now due to calve in ten days, according to his register.

When animal was turned on its back, legs appeared to be all right and no evidence of pain manifested on manipulation. After further examination and considerable thinking, decided to let the case rest until the following day, giving our client a "stand off" in the mean time, and administering a pound of sulphate magnesia to the patient to relieve the constipation.

Next day, after reading up on the case, we returned and handed in a diagnosis of *adynamia nervosa generalis* (Armatage), and gave instruction for bedding and frequent turning of animal, with suggestions as to feeding and watering until parturition should arrive; tried a few experiments with nerve stimulants, but without success. Patient gave birth to a very large calf on the morning of the 20th and without apparent difficulty; she was very thin at this time, having lost flesh

rapidly while down. On the second day after parturition patient regained her feet, appetite and milk increased, calf did splendidly and everything went well, even to the paying of the professional fee.

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#### A CASE OF CASTRATION.

BY THE SAME.

In May was requested to castrate a two-year-old colt running at pasture. Colt in poor condition, remarked same to client, who didn't care; wanted him castrated, anyhow. Patient was cast, and testicles, which were very small, exposed; ecraseur was brought into operation, but broke; testicles were taken out by means of a scraping motion of knife; very little hemorrhage; bichloride antiseptic used thoroughly, one to five hundred; animal turned loose and began to feed with other horses, mare and colt and one gelding; doing well next day; no swelling. On the third day lay down and died—was not informed of this until two days afterwards. What was it, peritonitis or tetanus? Have emasculated upwards of three hundred horses and never had a fatal termination until this one.

Perhaps animal was in too low a condition for the operation.

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#### AN INTERESTING CASE AND POST MORTEM.

By W. R. GRUTZMANN, Assistant House Surgeon to the American Veterinary College.

The subject of this article was a bay mare, 7 years old, 15.3 hands high. The animal was suddenly taken sick with influenza; her temperature was 105, pulse 72, respiration 24, and the extremities were swollen.

The animal was placed under diuretics, along with stimulants and tonics, and seemed to get along very well after a few days; suddenly the temperature rose up again to 105, pulse 72, respiration 30, the swelling of the legs disappeared, and on examination of the lungs symptoms of œdema were found along with a tinkling sound, but no distinct symptoms of pleurisy.

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The animal was placed under treatment again—diuretics, stimulants and tonics—the symptoms of œdema disappeared and the horse was improving. After a few days we were notified by the owner that the horse became worse again, and on the 5th of May, 1895, he was admitted to the hospital of the American Veterinary College. The animal was then examined, and her temperature was  $102\frac{2}{3}$ , pulse 50, respiration 24; no appetite, but always ready to drink.

To reduce the fever the animal received 3ii doses of quinine three times a day, but without any apparent effect; we then noticed that she was constipated, and she received 3vi of aloes, which acted on her bowels; along with this she received stimulants, tonics and anything to encourage her to eat, such as grass, green clover, etc., but in vain; the animal remained in the same dull condition as before.

Her general condition remained about the same up to the 13th of May inclusive, but on the 14th of May the temperature went up to  $103^{\circ}$ ; the animal was constipated again; she received 3vii. of aloes, which softened her fæces. After the action of the aloes had subsided the animal received Fowler's Solution in 3ss. doses three times a day, but without avail; the animal did not improve. The lungs were then examined, but nothing abnormal could be observed, except a slight flatness on percussion on the lower part of the right lung, which, however, disappeared again after a few days.

The animal stayed in the hospital, under the above treatment, until the 23d of May, and was then sent into the country to pasture.

On the 28th of June the animal came back in an emaciated and weak condition, and was hardly able to walk. On examination her temperature was found to be  $103\frac{2}{3}^{\circ}$ , pulse 56, respiration 24; on percussion, flatness on both sides of the lower part of the thorax, and the diagnosis of hydrothorax was made.

To tone up the system the animal received olei morrhue 3iii twice a day, and 3ss. doses of digitalis to stimulate the heart. On the 5th of July pulse and respiration became very weak and irregular, the animal refused any kind of food,

but drank freely. The condition on the 6th of July was about the same, and on the 7th the animal ate a little bran mash in the morning and noon, drank freely and seemed to be somewhat better; but in the evening the animal became worse—pulse 94, respiration 92, and the temperature dropped down to  $98\frac{1}{2}^{\circ}$ —and finally died at 2 o'clock A. M., apparently with heart-failure.

A post mortem was held in the morning of the 8th of July, and on opening the thoracic cavity we found that the latter contained about 6 gallons of a brownish-looking fluid; the heart looked externally just like a big lump of curdled milk, showing extensive lesions of pericarditis. Internally the heart looked just as if it were boiled, showing anæmia of the heart, and in the left auricle and right ventricle we found large ante mortem clots. On close examination of the thoracic cavity we found large ante mortem clots in the posterior aorta extending even into the branches of the iliac arteries and its branches. On opening the abdominal cavity we found a clear looking fluid, a dropsical condition, due to weakness and debility of the animal; the liver was of a dark blue color, showing everywhere the lack of circulation and its consequences. The animal apparently died from heart-failure, caused by various clots in the different chambers of the heart and general circulatory apparatus.

## EXTRACTS FROM EXCHANGES.

### AMERICAN REVIEW.

#### DOUBLE INTESTINAL INTUSSUSCEPTION IN A DOG.

A Scotch collie dog, in an emaciated condition, had persistent diarrhœa of six months standing. When seen had a prolapsus of the rectum probably about three inches, swollen and inflamed. On palpation is found an invagination of the posterior part of the colon, extending forward about eight inches. External manipulation failing to reduce the prolapsus, the animal was etherized, the abdomen opened and a

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double intussusception observed, very extensive and gangrenous, which did not allow of reduction. The last four inches of the small intestine were prolapsed into the anterior portion of the colon, and these two portions were further prolapsed into the posterior part of the colon.—*Veter. Magazine.*

#### IMPACTION OF THE STOMACH, WITH VOMITION.

A black gelding, 10 years old, was overfed with corn. Taken with colicky pains while in harness, he vomited several times a sour mass, containing some blood, which made the case appear one of ruptured stomach. There were occasional retchings, with partial regurgitation of the stomach contents, violent colicky symptoms, flanks distended, pulse full and cordy, conjunctiva congested, rectum empty.

Chloral, linseed oil and tincture of aconite gave but little relief. Salicylate of eserine produced some of its ordinary symptoms, but no defecation or expulsion of gases; hypodermic injections of atropia, and mustard to the abdomen, gave temporary relief. Later in the day he received an enema of warm water and soap with a drench of sulphate of magnesia, tincture of zingiberis, alcohol and water, which was followed by a passage of fæces and gases within two hours. Recovery followed. The author considered the case as "one of patulency of the cardia," with possibly a spasm of the pyloric sphincter. This, with the distended stomach, allowing the contraction of the abdominal muscles upon it, permitted of the vomiting.—*Ibid.*

#### TREATMENT OF AZOTURIA.

Dr. L. O. Luson, of Ardmore, Pa., recommended the following in the treatment of azoturia:

"I make a practice to catheterize every eight hours and administer chloral in one ounce doses when the patient is very uneasy, allowing water *ad libitum*, and turn him over every few hours. I use fresh sheepskin over the kidneys and croup (right side down). If severe pains are present, besides the



chloral, I add one ounce dose every hour for the first twenty-four hours and then every two hours for the next twelve hours, of the following mixture: Extract Buchu, Extract Juniperis and Ammonia Acetatis, equal parts.—*Four. Comp. Med.*

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#### HYOVERTEBROTOMY.

In the March issue of the *Journal of Comparative Medicine*, Dr. W. Dougherty mentions the result he has obtained in a number of cases of suppuration of the guttural pouches by puncture of these through the parotid glands. The name of hyovertebrotomy is scarcely applicable to this mode of emptying the guttural pouches, as it principally refers to the opening of the sacs from above. The author has been successful in all the cases he operated upon but two.

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#### IMMOBILITY FOLLOWING INFLUENZA—RECOVERY.

An interesting case is mentioned by Dr. W. Horace Hoskins of the recovery of brain trouble giving rise to well described symptoms of immobility as sequelæ of influenza, which were relieved by the administration of laxatives. One ounce doses of artificial Carlsbad salts with dram doses of powdered rhubarb, every four hours, brought on noticeable improvement in twenty-four hours and recovery in a few days.—*Ibid.*

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#### ENGLISH REVIEW.

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##### CONSTIPATION IN A LION CUB.

This case, recorded by Mr. J. A. Nunn, of the Lahore Veterinary College, is very interesting, illustrating as it does the effects of confinement even in wild animals, and sometimes the constant requirements of laxatives to overcome them. A lion cub had been tamed and kept until he became too rough in his play, when he was given to the Lahore Zoological Garden. There, in a roomy cage, he soon, however, manifested indications of intestinal ailment. "He was dull, disinclined to move, had lost his appetite, the abdomen was distended, hard, and somewhat tender on manipulation, the

track of the colon distended with fæces, being distinctly felt through the abdominal walls." After being secured the animal received a soap and water enema, followed by four ounces of castor oil. These acted well and the animal was restored to his playful spirits. Half an ounce of manna is, however, given to him twice a week to keep him in good condition.—*Veter. Jour.*

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#### PARALYSIS OF THE RECTUM AND BLADDER.

These peculiar cases, though not very common, are not rare to meet, and from their rebellious nature in yielding to treatment, any new case recorded becomes interesting.

This case differs but little from the generality: evident indications of constipation, or unwillingness to pass manure, two or three bits of fæces passed perhaps during twenty-four hours, rectum filled with large quantity of fæces, bladder more or less full. In this case the tail was flaccid. The treatment consisted in the administration of a dose of physic, nux vomica, liniments, blisters over the loins, nerve tonics, even the docking of the tail, all of which seemed to have produced no satisfactory result.—*Ibid.*

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#### FOREIGN BODY IN ŒSOPHAGUS.

Canine practice is assuming such importance with some practitioners that the case of a puppy swallowing a teacup and having it removed without other surgical interference than external manipulations is quite of value. Truly, the teacup was only a child's toy, but nevertheless made the puppy sick. Felt through the skin, it could not be displaced or pushed into the stomach with an elastic bougie. But while the little patient was under the influence of chloroform it could be carefully moved upwards toward the fauces, felt with the index through the mouth, and extracted with forceps.—*Ibid.*

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#### PERIPHYMOSIS IN A DOG—AMPUTATION.

Mr. J. H. Carter reports in the *Veterinary Journal* an interesting case of a fine retriever which had been suffering

with periphymosis complicated with enormous swelling, offensive smell and threatening of gangrene, and was about to be shot by its owner. After several days of careful warm fomentations and tractions of the prepuce, which allowed a return of the penis of about four inches, the case assuming a bad aspect by the gangrenous condition of the part, the author decided to perform amputation, which was done under chloroform. "The prepuce being drawn back as far as the swelling would permit, an incision was made a little behind the line of demarcation and immediately in advance of the anterior extremity of the os penis. The hemorrhage was slight and required no styptic dressings. The prepuce was drawn well forward in advance of the cut end of the penis, and a silk suture inserted at its external orifice." This was removed in the latter part of the day. For the first twenty-four hours the dog was quite ill and took food only after much coaxing. The following day he seemed considerably improved and continued so for a few days, when he was discharged.—*Ibid.*

#### GERMAN REVIEW.

By W. V. BIESER, D.V.S.

#### RUPTURE OF THE UTERUS.

Small perforating wounds of the uterus occur frequently, especially in forcible removal of the foetus. Favoring as they do infectious metritis and endo-metritis, still they are not as a rule followed by evil consequences. More important are the perforating wounds which can occur, as is well known, either in the earlier stages of uterogestation and escape observation, or, as is most frequently the case, at term.

A perusal of the two appended cases will show the truth of these data.

CASE I.—On March 27, 1890, Von G. saw a cow without any signs of labor pains whose liquor amnii had drained off. The cow was standing shaking her tail and constantly looking toward her flanks.

Manual examination per vaginam showed the cervix widely

dilated, the head and feet of the foetus presenting. The introduction of the hand caused labor pains to set in. Assuring the owner that everything was all right, Von G. waited ten minutes, introduced his arm again, but, to his surprise, there was no indication of any presenting part in the cervix. He found a rent in the lower posterior segment of the uterus through which the foetus had slipped. An autopsy upon the slaughtered cow—the circumstances of the case rendering slaughter of the cow necessary—showed the foetus lying in the abdominal cavity and a large rent in the lower posterior segment of the uterus 5 cm. from the cervix; this tear showed in its centre evidences of an old cicatrized rent, from which fresh and smaller bloody tears radiated right and left in all directions.

CASE II.—On December 31, 1893, Von G. was summoned with the intelligence that a cow, which had calved October 24, 1893, had been straining as if to pass something per vaginam, but that nothing had yet appeared. On introduction of the hand into the vagina he withdrew a small foetus with the membranes entire. He then proceeded to wash out and disinfect the uterus; in so doing he found on the upper posterior uterine wall, a rent four finger-breadths wide. As the uterus was entirely empty, the owner was advised not to kill the cow. The patient convalesced nicely and calved normally again on December 7, 1894.—*Schweiz. Arch. Thierhkl.*

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#### HÆMATURIA IN A COW AS A RESULT OF DEGENERATION OF THE SPLEEN.

The patient was a seven-year-old, non-pregnant, well-nourished cow intended for the market. Was found standing in her stall, back slightly arched, voiding a normal quantity of coffee brown urine. Respiration and circulation showed no impairment of function. She partook of food and drink with ordinary avidity. Temperature 39.6° C. A small swelling was found behind the last rib. Pressure on the loins elicited pains which she tried to avoid by drawing in her flanks.

*Post Mortem.*—Excepting the spleen all organs were nor-

mal. The spleen was enlarged to twice its natural size. The capsule was thickened, infiltrated with blood, stretched, and strongly adherent to the abdominal wall. The pulp was dark red, of soft, pulpy consistency; it welled forth on cutting in the form of a dark-brown pulp. In the spleen a blood extravasation the size of a pea was found.—*Schweiz. Arch. Thlk.*

#### MEAT INSPECTION IN BERLIN.

In the public slaughter houses of the central abattoir, there were 9,212 cattle, 13,061 calves, 30,515 sheep, 49,785 swine killed in Berlin during the month of April. Altogether 102,573 animals, as against 108,702 in April 1893, a decrease of 6,129; 2,598 cattle and 7,824 sheep less, 1,417 calves and 2,876 swine more in April, 1895, than in April, 1893. Of this number 552 were condemned as unfit for human consumption; this number includes 231 cattle, 35 calves, 5 sheep, and 281 swine. The number of individual parts and organs condemned amounted to 7,661 (of these 2,944 from cattle, 22 from calves, 1,184 from sheep, 3,511 from swine); among this number were 1,434 lungs and 860 livers. In the city stations for the inspection of imported fresh meat 16,463 quarters of beef, 15,401 calves, 3,347 sheep and 11,715 swine were registered. Of these 63 quarters of beef, 37 calves, 10 sheep, 17 swine, 38 organs and parts were condemned.—*Thierärztl. Woch.*

#### SOCIETY MEETINGS.

##### SPECIAL MEETING OF THE NEW YORK STATE VETERINARY MEDICAL SOCIETY.

At the special meeting of the New York State Veterinary Medical Society, held in the lecture room of the New York College of Veterinary Surgeons, New York City, on June 11th, 1895, the roll call showed a large number of veterinary surgeons present. The reading of the minutes of the previous meeting was dispensed with. The President, Dr. R. S. Huidekoper, explained in a few remarks the reason for calling this special meeting. He said that it was in order to comply with

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a clause in the bill which had recently become a law by being signed by the Governor, wherein the New York State Veterinary Medical Society are required to nominate ten members of their society, whose names are to be transmitted to the Board of Regents, who, according to the law, are to appoint five members out of the ten submitted to them: the five members appointed to act as a State Board of Veterinary Examiners, and to hold office for five years.

The following are the names of the ten members who were chosen by ballot of the members present to be submitted to the Board of Regents for them to make their appointments from: Drs. R. S. Huidekoper, Nelson P. Hinkley, Claude D. Morris, William Henry Kelly, John Wende, W. L. Baker, Arthur O'Shea, John A. Bell, H. D. Hanson, and Prof. James Law.

There was also a resolution offered giving notice to the Society that at the next annual meeting there would be a resolution offered to amend the by-laws so as to read that all legally registered veterinarians in the State of New York be eligible to present their applications to become members of the New York State Veterinary Medical Society. This resolution was accepted and ordered spread on the minutes. The meeting then adjourned until the next annual meeting, which will be held in the lecture room of the New York College of Veterinary Surgeons, No. 154 East 57th Street, New York City, Sept. 5th and 6th, 1895.

NELSON P. HINKLEY, Secretary.

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SIXTH ANNUAL MEETING OF THE NEW YORK STATE  
VETERINARY MEDICAL SOCIETY.

The Sixth Annual Meeting of the New York State Veterinary Medical Society will be held at the lecture rooms of the New York College of Veterinary Surgeons, No. 154 East 57th Street, New York City, on Sept. 5th and 6th, 1895.

The programme for the two days' proceedings will be well filled with interesting and instructive events. There will be the election of officers, the President's annual address,

the report of the Secretary, Treasurer, and of the several Standing Committees, including that of the Committee on Legislation, which have done such glorious work in the past year by securing the passage of our proposed bill, which regulates the practice of Veterinary Medicine and Surgery in this State, and places this branch of the sciences on the same footing as that of our medical brethren. There will also be reports from the several County Secretaries.

Several members of the Society have signified their willingness to prepare essays on subjects of importance, which they will read and defend. The Committee of Arrangements have secured ample hotel accommodations for all attending members close by to the place of meeting. The New York County Society have also made arrangements to entertain the members of the State Society while in their city. The Committee of Arrangements have also under consideration the feasibility of setting apart a half day of our meeting for the purpose of having a practical demonstration, in the way of having several operations performed on the live subjects, such as arytectomy, neurectomy, and cunean tenotomy, and any other operation that will be interesting and instructive to the members. The officers of the Society are making every endeavor to make this the most successful, instructive, interesting, and best attended meeting that has been held in the history of the Society. Besides the above mentioned events of this meeting, there will be other important and interesting proceedings to bring before the members of this Society for them to discuss and act upon, such as the changing of the by-laws, the explanation of our recently passed law regulating the practice of veterinary medicine in this State, the publishing of a New York State veterinary register, the election of delegates to the United States Veterinary Medical Association Meeting, and several other matters of importance and interest to every veterinarian in this State, will be taken up, discussed and acted upon. It is expected that there will not be a dull hour on the programme of the meeting of this Society. All members and all qualified veterinarians are cordially invited to attend. Printed notices, with programme,

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will be sent to every qualified veterinarian in this State. Blank applications for membership can be had by addressing the Secretary, No. 395 Ellicott St., Buffalo, N. Y.

NELSON P. HINKLEY, Secretary.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular meeting of the Veterinary Medical Association of New York County, was held on Tuesday evening, June 4th, at 8:30 o'clock, with President Huidekoper in the chair.

On roll call the following members responded to their names: Drs. Amling, Bieser, Bretherton, J. J. Cattanaach, J. S. Cattanaach, Caulfield, Dickson, Delaney, Ferster, S. S. Field, Fagan, Foy, Giffen, Gill, Glover, Huidekoper, Hanson, Jackson, Knott, Neher, O'Shea, Ryder, Sherwood, Turner, Wolters and Wellner.

The minutes of the last meeting were read and adopted.

Dr. Gill, Chairman of Board of Censors, reported favorably the names of Drs. R. S. MacKellar and F. Hueppe for membership. He also reported favorably the name of Hon. Timothy D. Sullivan for honorary membership of the Association.

Moved and seconded that the report be accepted. Carried.

Dr. Turner, Chairman Committee on Certificates, reported by exhibiting a copy of certificate adopted by the committee, the price being \$100 for two hundred and fifty on parchment.

Moved and seconded that the certificates be numbered. Carried.

Moved and seconded that the certificates have a seal. Carried.

After a number of slight alterations had been made upon the copy exhibited, it was moved and seconded that the copy exhibited with the corrections made be accepted. Carried.

Moved and seconded that the committee be continued with power to procure the certificates and have them signed and ready for delivery at the next regular meeting in September. Carried.

Dr. O'Shea read the report of the Judiciary Committee, giving a detailed account of the work done at Albany by the

committee, which report is now on file. He then read a list of the veterinarians registered in New York and Kings Counties, corrections being made by the members as each name was read; several were found to have moved from the State, several dead, and some unknown.

Moved and seconded that the report be accepted. Carried.

Moved and seconded that a letter of thanks be sent to the Senators and Assemblymen who aided the Association at Albany. Carried.

Moved and seconded that the Reception Committee invite the three Assemblymen and two Senators who introduced and aided in the passage of the bills at Albany to the State meeting, and also to the reception during the same. Carried.

Moved and seconded that the counsel of the Association be invited to attend the same. Carried.

Moved and seconded that the committee be continued with power to act. Carried.

Moved and seconded that the by-laws be suspended. Carried.

Moved and seconded that the Secretary cast a ballot for Drs. MacKellar and Hueppe. Carried.

The Secretary cast a favorable ballot for both gentlemen and they were declared members of the Association.

The election of Hon. Timothy D. Sullivan to honorary membership then took place, the election being unanimous.

Moved and seconded that the President appoint a committee to frame a proper testimonial for Dr. O'Shea. Carried.

The President appointed Drs. Cattnach, Sr., Field and Giffen as such committee.

Moved and seconded that the Secretary be empowered to have the constitution and by-laws printed. Carried.

Meeting adjourned.

J. E. RYDER, D.V.S., Secretary.

#### CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

On June 12th a meeting of the California State Veterinary Medical Association was held at the Commercial Hotel, Stockton, Cal.

The meeting was called to order by President Orvis, at 2:30 P. M.

Upon roll-call the following members responded: Drs. Orvis, Eddy, Fox, Spencer, Sr., Lemke, Williams, Hogarty and Archibald. Visitor, Dr. Eddy, Sr.

Letters of regret were read from absent members.

The minutes of the previous meeting were read and approved.

The Board of Examiners reported favorably on the application of C. L. Megowan, whereupon, on motion, he was unanimously elected to membership.

Under the head of unfinished business the election of a delegate to the next meeting of the national organization was taken up, with the result that Dr. R. A. Archibald was unanimously elected to so represent the Association. Owing to the fact that Dr. Archibald was elected a delegate he refused to collect the assessment levied at last meeting for the purpose of defraying the delegate's expenses. Dr. D. F. Fox was appointed to collect the assessment.

Under the head of reading of papers, etc., and discussions, Dr. Lemke was called upon to entertain the meeting, which he did by giving a review of the work he was doing toward the prophylactic treatment of anthrax in the central portion of the State under the direction of the Pasteur Anthrax Vaccine Co. He stated that the above named company had employed him for the purpose of determining to what extent anthrax prevailed in California, with a view of commencing a warfare on the disease by means of vaccination. He said he desired the co-operation of every practitioner in the State, more especially the members of the Association. He further stated that he had investigated the disease to a considerable extent and he had about come to the conclusion that there was a difference between the disease and the true anthrax; the mortality was not so great. He wished to get an expression from the members present who had had some experience with the disease as to their opinion of the nature of the disease. He was unwilling to vaccinate until he was thoroughly convinced of its true nature. He requested the members to



prepare specimens of animals that had died from the disease and forward them to him so he could have them submitted to a microscopical examination. He went on to give some statistics and data regarding the loss of live stock, the financial loss and the mortality of the disease.

Considerable discussion followed Dr. Lemke's remarks, and the Doctor was subjected to a rigid cross-examination by most of the members present, all of whom expressed a willingness to assist him by every means in their power.

Then followed the reading of a very instructive paper on bronchitis, by Dr. D. F. Fox, who described the different phases of the disease and the different methods of treating the same.

Dr. J. H. Eddy followed with an excellent and carefully prepared paper on the "Circumstances which Modify the Action of Medicines." Both subjects were thoroughly discussed by the members.

On motion of Dr. Spencer a vote of thanks was tendered the essayists for the able and masterly manner in which they had entertained the meeting.

The Chair appointed Drs. Spencer, Jr., Skaife, Pierce and Shaw as essayists for the next meeting.

Dr. R. A. Archibald submitted the following resolution:

WHEREAS, The live stock interests of this State are suffering from the malignant influences of contagious and infectious diseases, and

WHEREAS, The health of the public of this great State is also jeopardized by the presence of said contagious and infectious diseases which affect the domestic animal, and

WHEREAS, We, the members of the California State Veterinary Medical Association, realizing that this state of affairs is wholly due to the fact that there are no laws on the statute books of this State sufficiently adequate to control the ravages of these contagious and infectious diseases. Therefore, be it

*Resolved*, That the President be and he is hereby authorized and requested to appoint at the next meeting of the Association—which will be held at Sacramento—a committee consisting of three members, whose duty it shall be to wait on or communicate with the Governor of this State, with a view of prevailing upon him to appoint a Commission, to consist of one veterinarian, one physician, one lawyer, one dairyman and one stockman, who shall receive no compensation, and whose duty it shall be to devise ways and means whereby the public health and the live stock interests of this State may best be protected from the ravages of contagious and infectious diseases, such as anthrax, tuberculosis, glanders, hog cholera, etc.

Considerable discussion followed the presentation of the

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resolution, and the author was highly complimented for his ingenuity in drafting the same.

Upon motion of Dr. Spencer, Sr., the resolution was unanimously adopted.

There being no further business to come before the meeting, on motion of Dr. Fox, the by-laws were suspended and the meeting adjourned to meet in Sacramento on Tuesday, September 10th, 1895.

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On Thursday, June 13th, the members of the California State Veterinary Medical Association assembled by invitation of Dr. C. B. Orvis at his infirmary at 258 Lafayette Street, Stockton, to participate in a clinical entertainment.

The first operation on the programme was the reduction of a ventral hernia by Dr. H. A. Spencer, assisted by Dr. Archibald. The operation was the radical one for the cure of a hernia and was performed under strictly antiseptic and aseptic rules.

The next operation was performed by Dr. Lemke. This was a case of an old, long-standing fracture of the scapula at its upper third, from which a fistula resulted, which necessitated the trephining of the scapula.

Other operations of minor importance followed, closing the entertainment, which was voted an entire success by the members present.

R. A. ARCHIBALD, Secretary.

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NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.

A special meeting took place in Concord, at the Eagle Hotel, on June 13.

Dr. Lilico, of Dover, was admitted to membership.

A paper was read by Dr. Pope on "The Diagnosis of Tuberculosis."

A discussion followed, and the meeting adjourned until the first Tuesday in October.

L. POPE, Jr., Secretary.

## VETERINARY HONORS.

DR. A. CHAUVEAU.

On the occasion of the fête nationale of the 14th of July, Dr. A. Chauveau, Member of the Institute, General Inspector of the Veterinary Schools of France, received the decoration of *Commandeur* of the *Legion d'Honneur*. This great honor granted to Dr. Chauveau reflects on the entire profession in France, where veterinary science holds such a high standing, and is a national acknowledgement of the great services rendered by him through his various scientific works, especially the last, viz., the application of experimental physiology to medical researches.

## BIBLIOGRAPHY.

THE CAT.—A guide to the classification and varieties of cats, and a short treatise upon their care, diseases and treatment, by Dr. R. S. Huidekoper. With over thirty illustrations.—*D. Appleton & Co., New York.*

Very appropriately dedicated to the honorable President of the American Society for the Prevention of Cruelty to Animals, John P. Haines, Esq., the well-written and handsomely illustrated little book of Dr. Huidekoper comes to fill a want that all who love cats will appreciate, and that all veterinarians will enjoy to read. Though it is concise, the author has collected in the six chapters into which the book is divided, much interesting information. The zoological position of the cat family with a descriptive list of the various feline species, an outline of the anatomy of the domestic cat, the origin of the domestic cat and its varieties, the care and diseases of the cat, occupy the first five or principal chapters, while the therapy, the mode of destroying animals whose days of usefulness are gone, with the etymology, the synonymy and the emblematic signification of the cat completes the handsome gathering of the one hundred and forty pages, which are presented to the public by the house of D. Appleton & Co. in their usual manner.

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DR. SCHWARZKOPF TO DR. SALMON.

*Editor American Veterinary Review:*

DEAR SIR.—Dr. Salmon's latest on meat inspection in your May issue is so saturated with official self-confidence, and his language so much wanting of literary decency, that I must decline to further discuss this subject. Whenever the Doctor loses his temper, he goes to juggling with terrifying words and beating the drum. This is, I suppose, what he means by his "rather pointed replies which he has found it necessary from time to time to offer." Sure enough, the Doctor is renowned the two continents over for his "pointed replies," which are so full of amusing bluntness, and so lacking in objective clearness.

While I shall gladly leave the Doctor in full possession of his ideas on meat inspection, I must object to his flimsy attempt to stamp myself and my opinions as "foreign." True, I am a German by birth and education, and I offer no apology for this fact. But the country of the buffalo, the Indian and the other civilized Americans has been the land of my dreams since my youth. Circumstances have so shaped my life that I have become an American not only by consent of law, but also in spirit and sentiment. I also believe in patriotism, but I have no use for that fanaticism which employs race-prejudice as an argument in professional discussions. Furthermore, I believe that the pages of THE REVIEW are for our American veterinarians, and that Dr. Salmon's fear that "people in other countries will read them," has some pathological condition at its bottom.

OLOF SCHWARZKOPF.

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OBITUARY.

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DR. WILLIAMSON BRYDEN.

This well and favorably known Veterinarian of Boston died there on June 28th after an illness of about thirteen months, the immediate cause of death being apoplexy. Dr. Bryden was born in Scotland and came to this country when

a boy. He was graduated from the Montreal Veterinary College (now a department of McGill University) in 1871, where for several years he served as one of its board of examiners. He was a past president of the U. S. Veterinary Medical Association, also a charter member and past president of the Massachusetts Veterinary Medical Association, and an honorary member of the same when he died. For many years he was an inspector of cattle for British steamships from the port of Boston, and known personally to most members of the profession throughout the country, and to others, by his frequent contributions to our journals. He will be remembered by many young practitioners as a good friend and ever ready adviser. He was a good man, whom we esteemed highly, of a genial and hospitable nature, of marked intelligence, and an able student and practitioner. Dr. Bryden was well up in Masonry, and will be greatly missed by a large circle of friends and acquaintances.

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JOSEPH F. AUTENREITH, D.V.S., JERSEY CITY, N. J.

We regret to announce the death of Dr. Autenreith, which occurred at his residence, 780 West Newark Avenue, Jersey City, N. J., recently, after a lingering illness, from typhoid fever. The deceased graduated in the class of 1882, from the American Veterinary College, and had succeeded in building up a large and remunerative practice, having also held a number of public positions of a professional nature, being for several years consulting veterinarian to the Jersey City Board of Health, and veterinarian to that branch of the A. S. P. C. A.

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